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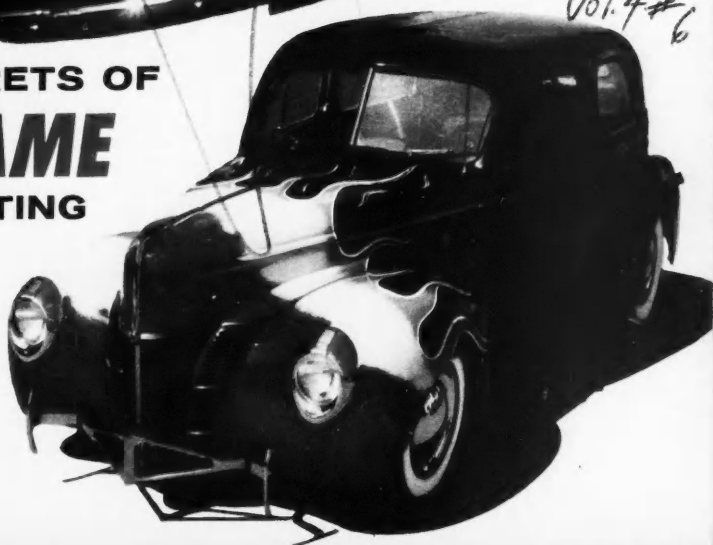
CAR CRAFT

OCTOBER 1956 25c

**ENGINE TUNE-UP
AT HOME**



**SECRETS OF
FLAME
PAINTING**



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Vol. 4 #6

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The "Custom Car" Magazine

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cover

The old proverbial adage "like a house afire" could well describe our front cover this month. This four alarm fad of flamed nose pieces is becoming increasingly popular with the earlier model car owners, and is recently has reached out and nailed the late custom car proprietors with its flashy innovations. For further details on this particular subject we suggest you turn to page 22 where you will find a very informative feature showing you the secrets of flame painting.

Ektachrome by Al Palocz and Bob Hardas

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WORDS from the EDITOR

RECENTLY we attended a local one-day auto show that had all the ingredients of becoming a huge success. Instead, this custom and hot rod display turned out to be a complete failure, in short, a flop! The fault didn't lie in the event's organization, for I doubt if a professional promoter could have done a better job than that accomplished by the young members of the car club that staged the event. They had the support of their high school, local Junior Chamber of Commerce, and their fellow enthusiasts, who had turned out one hundred and ten strong to enter and display their dazzling hot rods and customized cars. The day's festivities flowed smoothly with spectator activity and just plain enjoyment until—the trophy presentation commenced.

Before show time, one hasty decision on the part of the sponsoring car club had sent their potentially successful auto show on the rocks. The show judges, although briefed on judging procedure by the sponsoring group before their appointed tour, had miserably and with obvious personal bias, dropped the ball with their individual selection of the various class trophy winners. From here on the show fell apart at the seams. The sponsoring club was regrettably apologetic and immediately recognized their unfortunate mistake. The car owners, both winners and losers, were highly disappointed with the final results, and were quite dubious as to whether they would participate in the club's show next year. What had once been the car club's annual activity dream had now dug a grave for itself and become a one night stand.

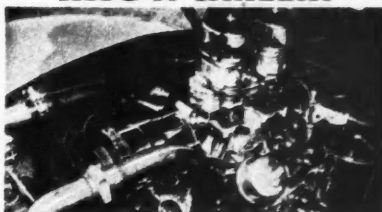
Show judges play an important role, if not the most important, in any type of competitive auto show where trophies are to be awarded to various class winners. A few tips that will assure satisfactory show judging are: thoughtfully scrutinize each prospective judge before appointment, thoroughly make him aware of his appointed chores and how to go about them, and last but not least, impress upon him the importance of his job. No matter how large, or how small, a competitive auto show may be, unbiased judging will mean a return engagement—not a one night stand.

— dick day



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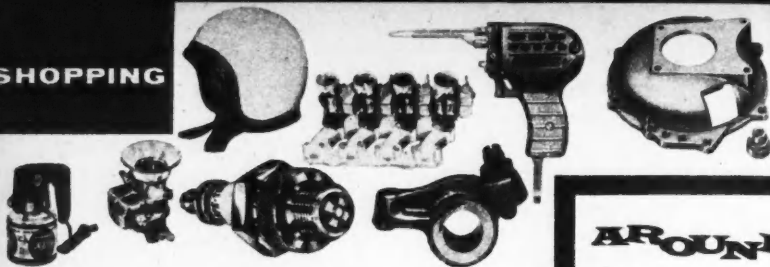
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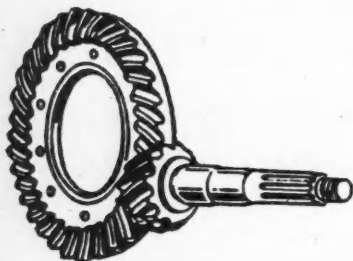
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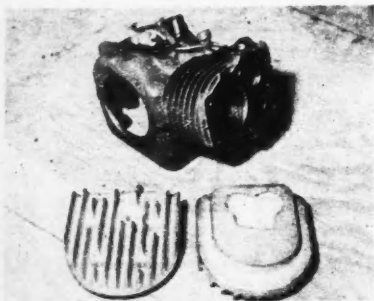
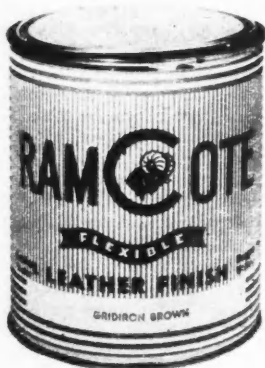


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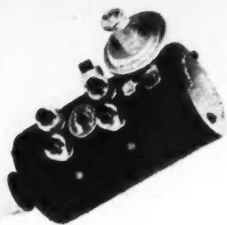
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WE'VE GOOFED, SEZ HE

Dear Sir:

As a steady reader of your magazine for about the last three years, I have watched with growing disappointment, and even disgust, the evolution of it being transposed into a gurgling "lead puddle" of custom cars and complete nonsense. When I first sent you my subscription you were running articles like "The Fabulous Diehard" and "Poison For Porsches" all very interesting competition features on sports cars and hot rods. How long has it been since you've featured an article on any kind of a competition car? Instead you have such junk devoted to how to fit Merc taillights to Fords, or, how to HI-FL your car, etc. Did you ever hear the old adage "silk purses and pig's ears?" Well, all I've got to say is that you better rejuvenate your editorial policy in regards to the customizing theme, because your heading for a great disappointment in sale. For example, your article on "Restyling the '54 Plymouth"—why? The '54 Plymouth was one of the most evil handling pieces of iron to ever come from Detroit, so why bother to customize it? For the amount of money that was put into customizing this Plymouth a person could have went out and bought a brand new sports car with functional styling and terrific handling qualities. But why go on, "beauty is only as beauty does," and customizing is a blind alley with rewards only going to the custom shops. Please cancel my subscription with the current issue. I can no longer bother to read your magazine.

— R. G. Schmitt
Fort Worth, Texas

Live, and let live, is my motto, Mr. Schmitt. I'm sure that you can find another quality magazine on the newsstands that specializes in your particular automotive interests. Our specialty happens to be "customs and hot rods", sorry —Ed.

REHABILITATED GI

Dear Sir:

Enjoy reading your fine magazine each month and am hoping that you have room for a couple of the enclosed snapshots of my '50 Ford club coupe. I have installed a '54 Pontiac grille bar, disguised the taillights somewhat with '51 Ford chromed windsplits, adapted '51 Merc rear fender skirts and have painted the little gem a vibrant burgundy and white color. The hood has been nosed and has



eighty-two-inch louvers. Body has been lowered some four inches both front and rear. I've only had the car a little over a year now, starting on it when I was discharged from the Army. "What do you think of the Flame designs?"

— Don Coleman
Vice President of the Torquers
Minneapolis, Minn.

That's a pretty flashy paint job, Don. Looks good. You'll probably be interested in this month's flame story which can be found on page 22.—Ed.

HE LIKED WHAT HE TRIED

Dear Sir:

Having read the April '56 issue of CAR CRAFT, I saw the article showing how to install '56 Lincoln taillights on a '52-'53 Mer-

cury. At first the appearance didn't do too much for me, but the more I look at it and thought it over, the more I like the idea.



Enclosed is a picture of the finished job which was done by the Courtney Body Shop, with some assistance from yours truly. I have also shaved the trunk, frenched the headlights, removed trim from the hood and reworked the front grille slightly. Keep the customizing how-to-do-it articles coming, for us ol' rebels like them a lot!

— William Young
Richmond, Virginia

How do you say "thank you" in Yankee, Bill?
— Ed.

"THE COOLEST"

Dear Sir:

I picked up your June issue and what do I find? ... Ledhed McSlab! He's the coolest. Let's see more capers on this jolly fellow.

— Tim Morosco
Los Angeles, Calif.

"THE COLDEST"

Dear Sir:

I think that your latest efforts, the June issue, containing a so-called humor feature by one Carl McKohler titled "The Legend Of Ledhed McSlab" was lousy! You have some sixteen articles in the magazine and why you wasted pages for this type of thing is really beyond me! I suggest you stick to your field — automobiles. Leave this type of feature to the comic books.

— John Dowd
Idaho Falls, Idaho

We have received considerable mail on the recent feature "The Legend of Ledhed McSlab," both pro and con. So far, most readers seem to favor this type of feature. How 'bout hearing from more of you readers on your opinions. Do you like it or not? — Ed.

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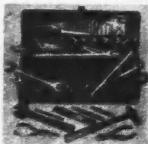
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PHOTOS BY BOB HANCOCK

FLAME 'N FANCY '40

Talk about a prolific area for outstanding hot rod and custom car equipment and it's pretty hard to leave San Diego, California, out of the conversation. Prize example of this teeming southland community is Bob McCoy's beautifully rejuvenated '40 Ford tudor, that has all the trimmings. Bob, who has been to the post twice before with this sacred model, couldn't shake the third charm when he spied this perfectly stock sedan for sale some twelve months ago. And if you look under its present wild attire you will find that the body is still in perfect mint condition. When re-vitalizing this year Ford many of the younger set prefer to restore body exterior to immaculate stock condition lending rodder's appeal by elaborate paint jobs, radical rake and a few specialties such as nerf bar bumpers, wheel covers, etc.



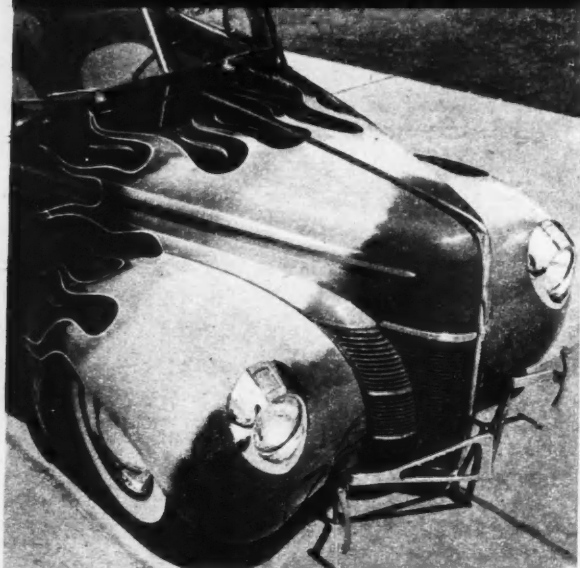
four alarm fad with flames reaches the kindling point in Bob McCoy's tudor



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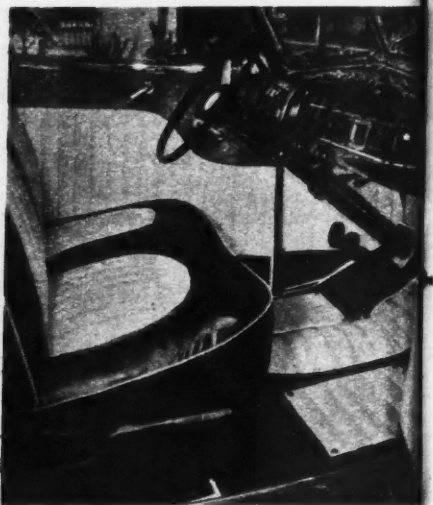
FLAME 'N FANCY '10

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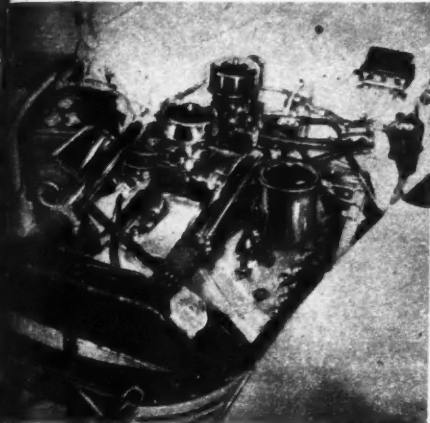


The vibrant four color flame paint job is the work of Ray Cook, who handles all custom body work and painting for Al King's Garage in Mission Beach, California. For multiple flame color blending, check out page number twenty-two of this issue.

Interior abounds in black and white rolls and pleats. All stitching was done by Kizer's Upholstery Shop of San Diego. Removable dash parts and all garnish moldings have been chromed, augmenting interior's sparkle. Note snap-on pleated foot pads for rug protection.

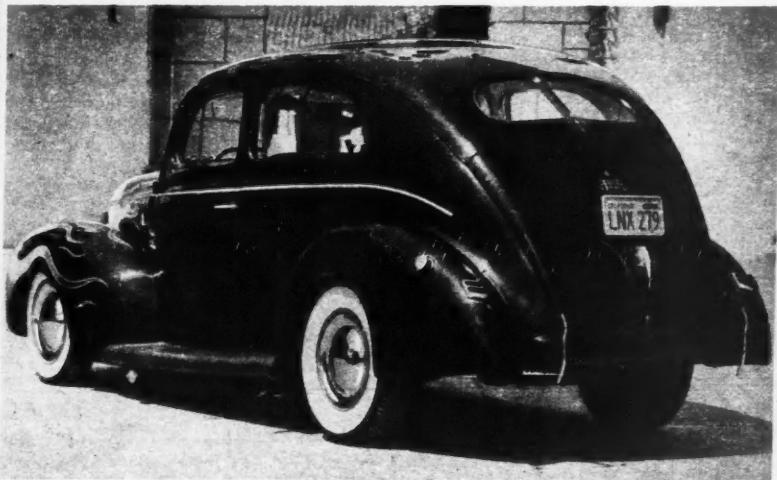



Ray Cook's talents were again employed to create novel front nerf bar. Nerf bar is made up in three sections, all of which attach to frame horns similar to stock bumper brackets. Push type nerf bars were also made up for rear of car, attaching in same way.



Warmed over flathead powerplant pushes tudor along fine for street use. Note sanitary condition of engine compartment. McCoy is active member of "Prowlers" car club of San Diego area.

Radical rake which lends sedan real sneaky look was accomplished by the following: installing dropped axle; reversing spring eyes; removing one leaf from spring and using 4-inch shackles. The rear of the car, although not noticeably lower, employs 4-inch shackles also. Tire sizes are 5.50 x 16 front and 7.60 x 16 rear. Note exhaust tips routed out just in front of rear wheels and header pipes emerging from under the running boards.





HOME ENGINE TUNE-UP

By Don Francisco

*how to keep your car in good running
shape using a minimum of special tools*

I DON'T REMEMBER the "good old days" when home repairs, and especially "tune-ups" were as much a part of motoring as sitting in the driver's seat and handling a car's controls, but I've heard and read a lot about them. In those times it was necessary to work on an automobile, and frequently, if one expected to get where he was going without making roadside repairs enroute.

When automobiles were in their infancy spark plugs were cleaned by scraping them with a pocket knife, distributor points were filed regularly, and the gaps of both the spark

plugs and the points were adjusted to the thickness of a "thin dime." Precision tune-up equipment was a thing of the future and, for that matter, unnecessary for the engines in use at that time. Now, however, conditions are decidedly different.

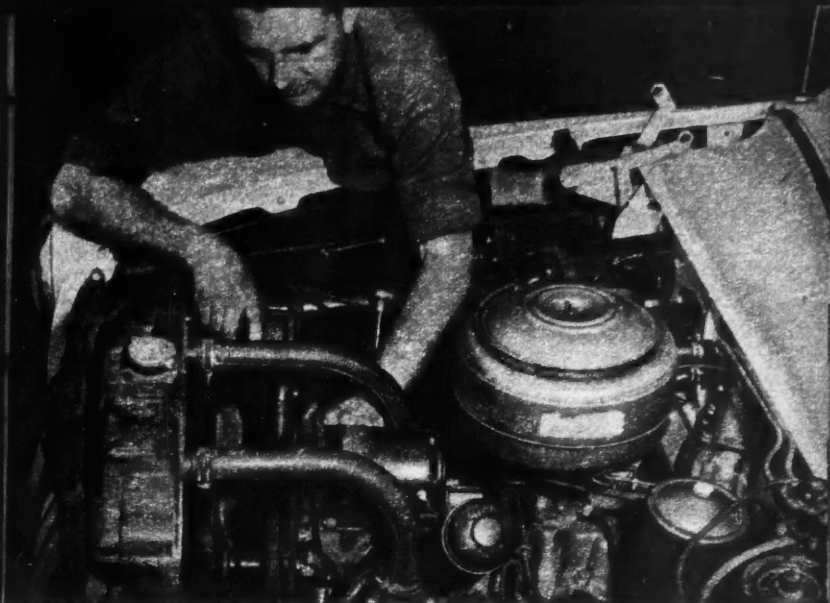
A fellow that tries to tune his car at home in this day and age is apt to do more harm than good. The fancy tune-up equipment one sees in most auto agencies and garages nowadays isn't there for decorative purposes. The stuff costs money, and lots of it, and the owner of a shop buys the equipment only because



1. Use a deep socket wrench of the proper size to loosen spark plugs from heads.



2. Before removing plug from head, use air to blow dirt from around each plug.



he needs it to turn out a workmanlike job on his customers' cars. Modern spark plugs can't be cleaned with a pocket knife, nor can the distributor points of a high performance engine be adjusted with a thin dime.

It's sad but undeniably true that modernization of the nation's rolling stock has made it a little rough on the mechanically inclined fellow who would like to do something more to his car on a dull Saturday afternoon than just give it a wash and polish job. Perhaps the engine in his jewel has been dropping a shot now and then, or maybe it has been a

little hard to start lately, and he would like to correct the condition without going to the bother of taking the car to a garage. Then too, maybe he isn't ready to lay out the twenty-five dollars garages always seem to charge for such a job. What can he do, without getting himself into expensive trouble?

Well, assuming he has a few basic hand tools at his disposal and the tune-up specifications for his car, our ambitious friend can possibly while away the afternoon without doing too much harm if he is careful to tackle only the parts of the engine his understands.



3. Use small screwdriver or other scraper to clean plug seat. Keep dirt from cylinder.



4. If plugs are still serviceable, take plugs to service station and blast deposits off.

CONTINUED

HOME ENGINE



5. Solvent or gasoline should be used to thoroughly clean plugs, both inside and out.



6. Wire brush used on the threads removes dirt which might cause threads to bind.



7. Before regapping clean plugs, open up gap and file center electrode off square.



8. Always gap plugs using a round gauge or small drill. Don't use flat feeler gauge.

Success or failure in a project of this type can depend on having the proper tools for the job. More harm than good can result from trying to remove and replace spark plugs with a Crescent wrench rather than a socket of the correct size, or by trying to make clearance adjustment without the proper size and types of thickness gauges, or by trying to do some other equally critical part of the job with the wrong tool.

Probably the first thing to do on a tune-up job of this type is check the engine's spark plugs. Nine times out of ten spark plugs are the cause of hard starting, missing, and other engine malfunctions most noticeable and irritating to the driver. Spark plugs should be removed from the engine with a special plug socket or a deep socket that fits the hexagonal shoulder on the plugs correctly. Unscrew the plugs from the cylinder head approximately two turns and then blow the dirt and other foreign matter that collects around the base of the plugs in most engines out of the plug recesses with compressed air or the blast from a tire pump. Blowing the dirt away in this manner will prevent its falling into the cylinders when the plugs are removed.

Spark plugs can cause trouble when they are dirty internally or externally, when they are broken, and when their electrodes are burned away because of excessive use or because the plugs are of the wrong heat range. A visual examination will usually reveal whether a plug is broken or if its electrodes are burned excessively. If either of these faults is apparent it will be necessary to replace the guilty plugs with others of the cor-



9. Plug will not seat properly if old gasket is used so replace old ones with new.

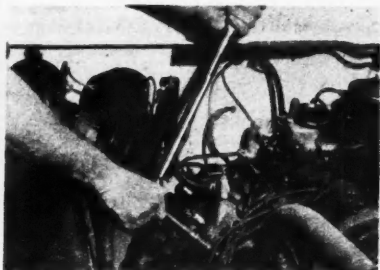
TUNE-UP continued

rect heat range without further ado. Plugs in good condition other than for normal or heavy deposits on the ceramic shell that insulates their center electrode can usually be made serviceable again by cleaning them in a cleaner of the blast type. This service is available at most service stations and garages.

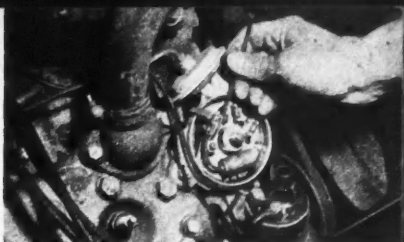
It's the deposit on their center electrode insulator that usually causes spark plugs to misfire. Under some conditions these deposits become conductors of electricity and allow the secondary current from the center electrode to travel to ground along their surface rather than jump the gap to the grounded electrode attached to the plug's shell.

Blast cleaning is the only practical method of cleaning spark plugs because the part that must be cleaned cannot be cleaned as thoroughly by scraping, soaking, or any other method known as this time. At one time blast-type spark plug cleaners employed sand as their cleaning agent but many of them now use other abrasive materials that are not as destructive to the comparatively soft material of the insulators; however, the extent of the blasting must be held to the minimum necessary to clean the insulators to minimize the blasting's erosion effect on their tips.

Before blasting the plugs, clean their exterior and interior surfaces with gasoline or some other solvent to remove oil, grease, or other matter, and after blasting, clean their threads and gasket seats with a wire brush. Scrape the gasket seats in the cylinder head with a small scraper or screwdriver, taking care not to scrape anything into the cylinders, so the plug gaskets will have a smooth, clean



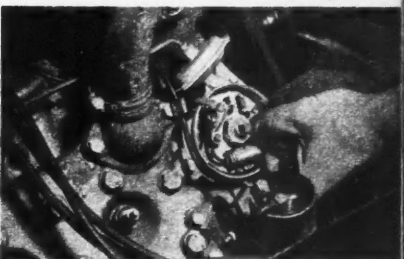
10. Plugs should be tightened with a torque wrench. If not available, see text details.



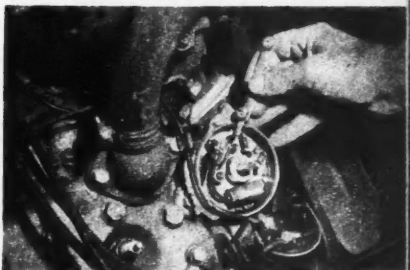
11. Distributor points that are not too bad can be dressed off with point file.



12. If new points are used, align stationary contact to arm with small pliers.



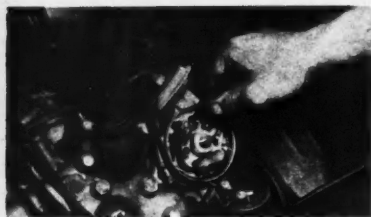
13. Clean rag dampened with tetrachloride can be used to clean old grease from cam.



14. With rubbing block on lobe high point, check gap with proper size round gauge.

CONTINUED

HOME ENGINE TUNE-UP continued



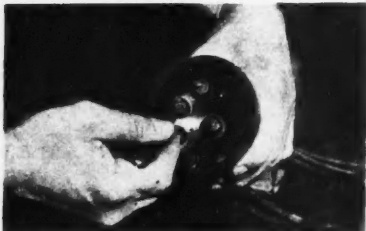
15. After gap adjustment is set, lock down the points carefully to avoid movement.



16. With points adjusted, lubricate cam, clean points with brush, tetrachloride.



17. Small file or knife can be used to remove corrosion from contact of rotor.



18. Inspect distributor cap, cleaning contacts. Check for cracks or carbon paths.



19. Use rag and carbon tetrachloride to clean cap of dirt and carbon deposits.



20. Check secondary wires, removing corrosion, fastening on new ends when needed.

surface on which to seat.

The gap between the electrodes of the plugs must be adjusted after the plugs have been cleaned; however, before adjusting the gaps file the end of each center electrode with a thin file to make it flat again, as it was when the plugs were new. It may be necessary to bend the grounded electrode away from the center electrode a slight amount to make clearance for the file. Adjust the gap by bending the grounded electrode up or down in

relation to the center electrode to obtain the specified clearance. Check the clearance between the electrodes with a round gauge of the correct diameter. Special sets of gauges for this purpose are available but it is also possible to use a drill or any other round piece of material of the correct diameter. The gap cannot be checked accurately with a flat gauge because the surfaces of the electrodes are not perfectly flat.

If the plugs are of the type that require

gaskets, new gaskets should be used when the plugs are reinstalled in the heads. Plug manufacturers recommend their products be tightened with a torque wrench but all home mechanics don't have torque wrenches at their disposal. If you are one of these unfortunate fellows, install the plugs by running them down snugly against their gaskets and then tightening them another three-quarters of a turn. Plugs that don't have gaskets, such as those in late model Ford products, can be tightened satisfactorily with a six or eight-inch socket handle.

Next on the list of probable trouble makers are the breaker points in the ignition distributor. Distributors of different types require different service procedures but assuming the one in question is of the conventional type in common use on modern automobile engines, remove its cap and rotor and inspect the breaker contacts. Points with badly pitted or burned contacts, that have worn or loose rubbing blocks, or show other indications of excessive wear or are damaged so they can't

operate properly, must be replaced. Installing new points is merely a matter of removing the old points from the distributor and replacing them with a new set of the correct type. The important thing to remember when changing points is how they are anchored to the breaker-plate and how the primary and ground wires are attached to them so the new set can be installed correctly.

After installing new distributor points, carefully check the alignment of their contact surfaces. One of the surfaces is usually convex in shape and the other flat. When the points are closed the center of the contact with the flat surface should rest on the center of the convex contact. If this is not the case, bend the support of the stationary contact to align it with the contact on the movable arm. Don't bend or twist the movable arm.

Contacts that are not too badly worn or pitted can often be made serviceable again by lightly filing their surfaces with a special point file. New points or points that have been filed must be adjusted so the gap be-

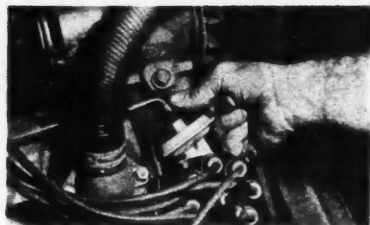
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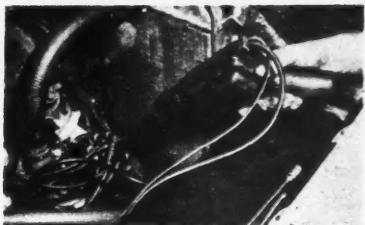
21. Also check sockets in cap one at a time to keep in order. Remove corrosion.



22. Use piece of cellophane or tissue paper as described in text to set the timing.



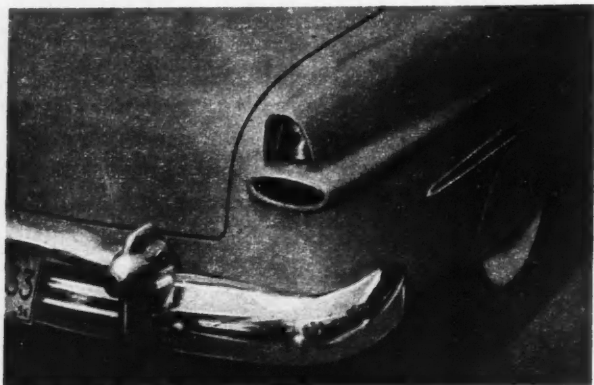
23. Before timing with light, disconnect vacuum line from carburetor to distributor.



24. Initial setting should be made on factory mark, car then road tested to be sure.

CUSTOM ONQUEST

first attempt at restyling
unveils hidden talents
of Roy Bennett—
curator of this fine
"Southern Belle"



Tops of rear fenders have been extended with sheet metal to house '53 Chev backup lights. 1/4" welding rod was used to obtain rolled edge of upper housing. Taillights are merely frenched in, but combo of dual lights lends novel styling. Exhaust is cleverly routed out rear '54 Chevy bumper guards.

'55 Chev headlight rims were employed for late shaded styling with 3/8" round rod being used to create rolled edge over lip of rim. All body panels and fender seams have been filled. Deck lid is trimless except for small key lock used for actuating.



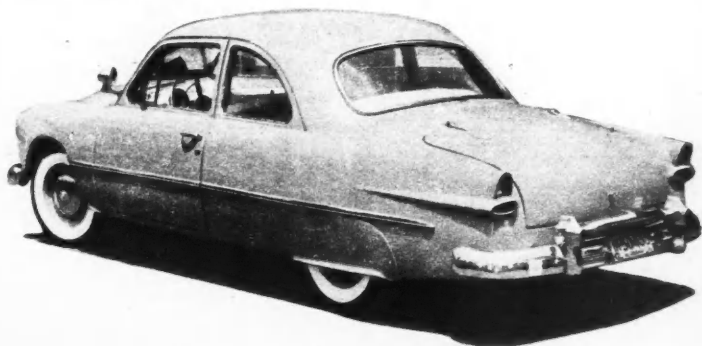
Not many men would brave a complete body section job all by themselves, but this didn't seem to deter crafty Roy Bennett of Bessemer, Alabama. He not only relieved the body on his '49 Ford of five full inches, but went on to build a very immaculate custom car.



With grille opening shortened considerably due to the body sectioning, Roy installed a '51 Ford top grille bar and filled the grille cavity neatly with a much modified '55 Ford grille piece. '54 Chevy bumper guard assembly is found up front, also accompanied by a '49 Chevy front license plate guard.



The ground hugging appearance of the coupe is mainly due to radical body sectioning. Top is stock height. Rear springs were de-arched approximately two inches, but front suspension is stock as they come. Large '51 Merc fender skirts conceal rear wheel openings.



SECRETS OF FLAME

Photos by George Barria

HOW 'BOUT some frantic flames for the nose of that 'forty? Say—a little flicker from those hood louvers wouldn't look bad either, would they?" Well, it looks like we'll all go up in flames shortly for the fad of flame painting is back bigger than ever. The big difference though is that the flame paint jobs that we have been getting a glimpse of lately are no fakers, they're the genuine looking articles. No more one color silhouette flames for these kids. No sir, they're going for nothing but the real thing; four colors, blended and hand rubbed, tipped with gold and finished off with contrasting striping. These flame paint jobs are usually found on the earlier model cars, lending a very flashy touch. But lately, owners of late model products have been using the flame gimmick in a very con-

servative manner, obtaining a very novel appearance. Although the application of the blended flames appears to be complex, the procedure is very simple and one that any tyro painter can accomplish for himself.

Before jumping right into the photo story that follows let's review a few of the trade secrets that make these artistic flame jobs the success that they are. After first chalking off the flame pattern that you are going to employ, then comes the job of masking. There are two methods that can be used. One, is to first strike off the outline of the pattern with $\frac{1}{4}$ -inch masking tape. This small width tape is used because it is very easy to handle when outlining the irregular, tightly curved contours of the flames. After the flame pattern has been completely outlined with the $\frac{1}{4}$ -inch



Manuel Gonzales' '40 Ford also has a beautiful fiery front piece. Using a basic color of bright red, flames are tipped with yellow peaks. Irregular blue shadows are found running spasmodically throughout flames. Paint was radically cut and blended by using rubbing compound and a lot of hard old elbow grease.

E PAINTING

Barris

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One of the most striking flame paint jobs that we've seen in the past is one belonging to the nose of Bob McCoy's beautiful '40 Ford. Created in three colors, red, yellow and orange, the colors have been blended together meticulously by color sanding with number 600 sandpaper and rubbing compound. Note flame tip designs.

tape, then $\frac{3}{4}$ -inch tape is used to fill in with until you are able to start using newspapers to cover the areas not to be painted.

The second method is one that offers much more speed in the masking operation. Sign painting and poster supply stores carry a masking paper that comes in rolls, and measures some twenty inches in width. This paper can be easily adapted onto the car where you wish to bring on the flames. After the large sheet of masking paper is securely applied, you then scribe off the flame pattern, cutting and removing the paper accordingly. Of course, it's necessary to mask off the surrounding areas with newspaper before painting, but much

masking work is saved by using this method.

Color blending is accomplished by working with a wet painted surface and by cutting the air pressure down when spraying the paint. Let's say that you want a four color flame job of red, yellow, orange and blue. With the area to be painted completely masked off, your first step would be to spray on what is called your basic color coat. We chose red for this color, and several coats (6 or 7) are sprayed onto the surface. The basic coat must be sprayed on thick because there is considerable rubbing to be done later, necessitating the thick coat of material. Next, we prepare for the blending

CONTINUED

AFT



Quite an unusual effect can be created by using a silhouette patterned flame flickering from numerous hood louvers.



A very novel and popular flame treatment for late model custom cars is to have small flame trailing from wheel opening.

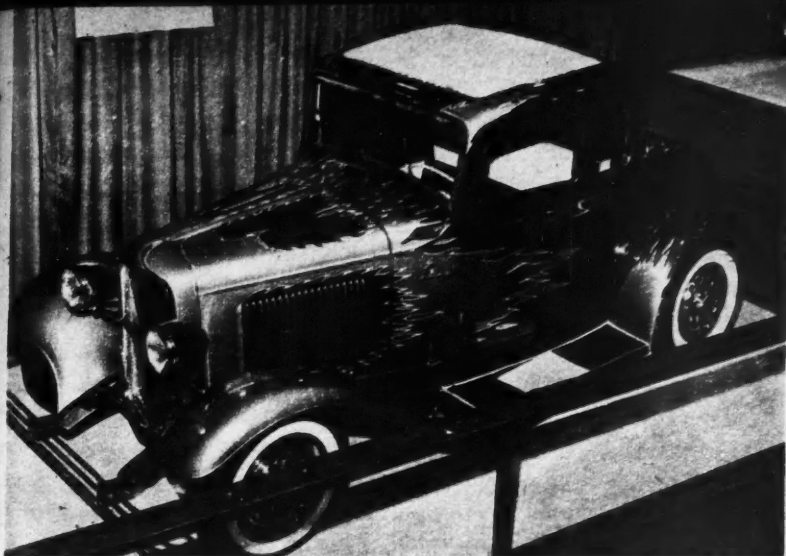
FLAME PAINTING continued

operation. Assuming that we will be working with only one paint gun, we must mix our blending colors, which are the yellow, orange and blue, and have them ready for immediate use. Once you start the color blending operation it is compulsory to keep moving with the various colors, blending each one into the previous color coats before they have a chance to thoroughly dry. When blending lacquer material we suggest that you use a slow drying thinner. Slower drying enamel material is not as critical.

With the heavy red base coat completely dry, we now spray on two or three additional flow coats of the red. Our number two color will be the yellow. We immediately clean the spray gun and refill it with the yellow paint. Cut the air pressure down to approximately fifteen or twenty pounds and start spraying the yellow paint onto the moist surface. As you can easily see, using Bob McCoy's '40 Ford pictured on this month's cover as an example, only a small portion of the area is covered with the yellow paint. Your first observation, with both the red and yellow colors being wet, will be that the yellow will turn

a slight orange in coloration due to the wet blend. Let this coat almost dry, then apply more yellow paint to the area, working towards the tips or rear part of the flame pattern at all times. As the yellow dries you will notice that the additional coats of the yellow paint will bring up the yellow to its true color. While the last coat of yellow is still wet, you again clean the spray gun promptly and fill it with the number three color, orange. The orange color is applied in the same manner as that of the yellow, only you are now spraying farther up into the flame pattern nearer the tips. The color blue is used very moderately to add a few shaded shadows throughout the pattern. Manuel Gonzales' '40 Ford pictured at the top of this month's cover displays a fine example of how the blue color is used for spasmodic shading.

The finished touch is put to the flames with good old elbow action, that of rubbing and blending the various colors into their irregular contours with rubbing compound. As you begin rubbing out the paint you will notice that various off shades will appear and will start to take on abstract shaped patterns. These

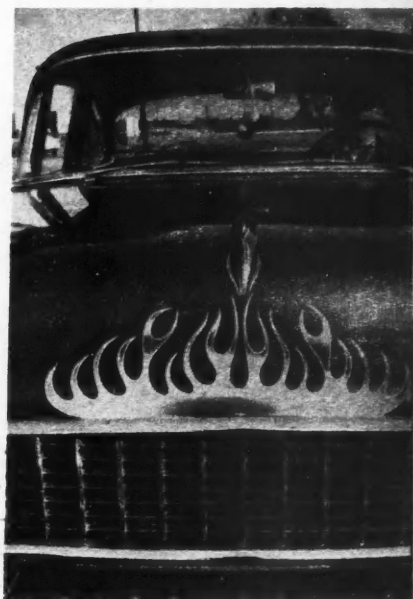


George Sein's beautifully tailored '32 Ford coupe sports one of the most unique multiple toned flame paint jobs to come along. Color combo is lime green, gold rust with flames tipped with gold dust. Note the intricate design and striping.

Another clever flame innovation for the late stockers is this small hood flame.

are the designs and irregular color tones that give the truly professional flame paint job its beauty. After the labors of rubbing are out of the way the talented striper takes over, outlining the tips and pattern of the flames in a contrasting color, beautifying the separation even more.

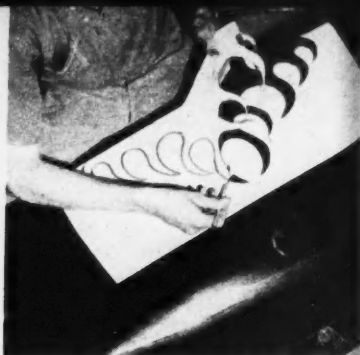
There are many designs and color combinations that can be employed in flame painting. The two cover cars this month show you two of the best methods, and yet are completely different from one another. Some of the popular color combinations that yield an unusual harmonizing value, yet offer a very striking effect are: red, yellow, and light blue, red, orange and yellow, lime gold, rust metallic and gold; purple, gold green and yellow. The last two suggestions really come on in lacquer metallic materials. As you will notice on the following pages we have pictured a few of the better flame patterns and flame gimmicks to help you get started. Remember, there is only one rule when flame painting—make 'em look like flames!



CONTINUED



1. Securely attach masking tape to surface, then mark off your flame pattern.



2. Cutting lightly around scribed lines with razor blade, remove center pattern.



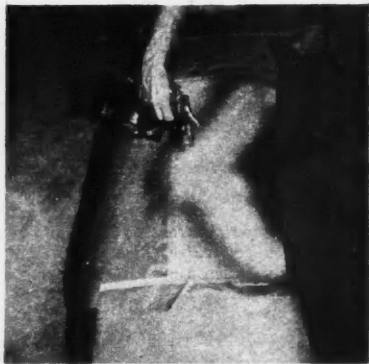
3. Mask off surfaces not to be painted. Double check tape edges around pattern.



4. Surface to be painted is now sanded smooth using number 400 sandpaper (wet).

5. After surface is sanded smooth, apply thick coat of basic color (usually red).

6. With basic coat dry, apply flow coats of same color. Number two color is next.





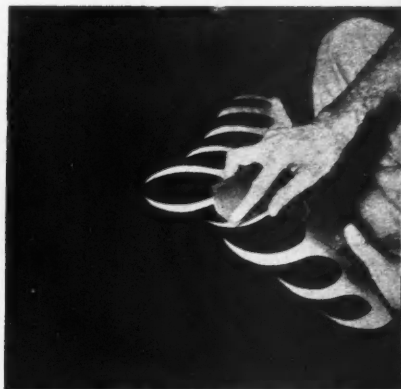
7. Flame tips are now painted with second color. See lead copy for color blending.



8. Allow paint to thoroughly dry, then carefully begin to remove masking paper.



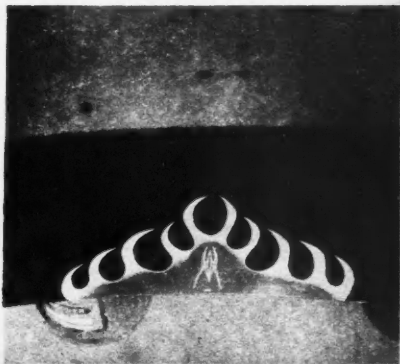
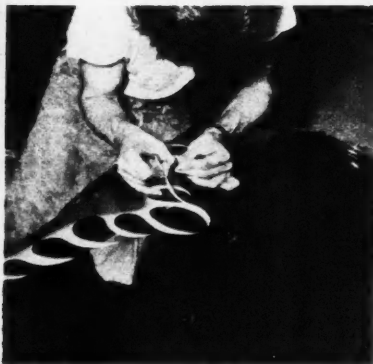
9. Rubbing compound is used to cut and blend various colors. Use palm of hand.



10. Number 600 sandpaper is used to cut away ridge between new and old paint.

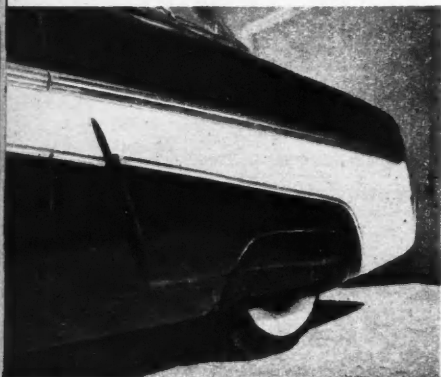
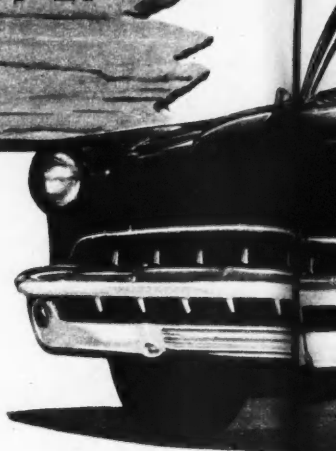
11. The final touch in standing flames off from contrasting paint is striping.

12. Here is the finished three color flame job carefully blended and striped.



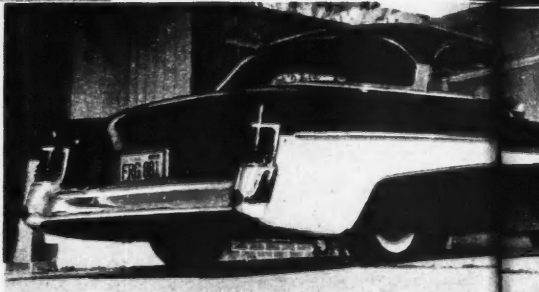
BORDERTOWN BEAUTY

tremendous overall effect achieved
with unique side trim placement
—and just the right props!



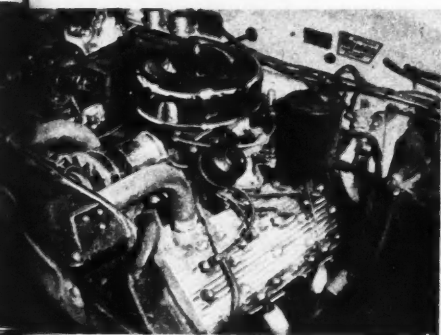
Doing the honors in the body work department of Higgs' '53 Merc hardtop is the Broadway Auto Body Shop located in Chula Vista, California. Each stock rear fender's leading edge has been neatly transformed into simulated airscoops with hot roll iron rod used to obtain cavity's smooth round edge.

Highlighting Merc's many innovations is the dramatic side trim styling. A lower '56 DeSoto trim piece was adapted to Merc's stock rub strip to create spear type design. This component can be easily installed on most late model cars, lending same unique effect.





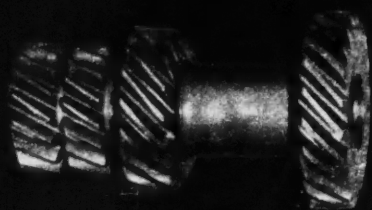
Dick Higgs' motives for building a custom car are quite apparent. The lovely Miss that somewhat confuses this setting (we don't know just what to look at) is Miss Patricia Harris of San Diego, California, who you will be seeing again in the near future—we promise.



Since Dick stems from the hot rodding ranks it's only natural that the engine should carry a complement of speed goodies. Replacing stock taillights are '54 Merc assemblies. '54 Merc station wagon rear fender caps were used for the installation.



Additional '53 Merc grille teeth were adapted to achieve grille appearance. Hood's fake airscoop has been blanked off and contours carried forward over nose of hood.



BIG

CHEVY SIX

FOR THE STILL large group of car owners who compete at the drags using Chevrolet six and GMC engines, we have a picture story which will show you how to put the best available transmission behind your engine. The transmission is the early Cad-LaSalle type and can be found either in the floor shift model ('37) or column shift ('38 and later). The gear ratios of both types are 2.39 to 1 in low, 1.53 to 1 in second and 1 to 1 in high. Ratios for standard Chevrolet transmissions are 2.94 in low, 1.68 in second and direct in high.

The better ratio split in the Cad-LaSalle box plus the huskier gears, larger synchromesh surfaces and general overall quality make this transmission the best available for Chevrolet six owners having trans troubles of any type. There is a bit of work involved in hooking up the better trans between the engine and the driveshaft, however.

First, the trans must be adapted to the engine. Dick Lyon, who did the installation seen on these pages, machined an aluminum plate to space the transmission back far enough so that the main drive gear does not have to be altered in length. Lyon also has these adaptor spacers in stock in his Lynwood, California shop. The Chevrolet pilot bearing was used, together with a heavy duty truck pressure plate with coil springs and three release fingers instead of the conventional Chevy diaphragm spring plate. The Chevy throwout bearing was replaced with a Cad bearing and the Chevy clutch release arm altered slightly by grinding

on the ends so that it would work with the Cad throwout bearing. An 11-inch Borg and Beck clutch disc with spline size to match the Cad main drive gear was located in the parts book.

To adapt the rear of the Cadillac trans to the Chevy torque tube drive shaft, a rear bearing retainer from a '54 Chevy four speed $\frac{1}{2}$ -ton pickup was bought (part number 561679) and altered to fit the rear of the transmission case. The reliefs machined in the retainer match the Cad rear bearing and snap ring perfectly. The only changes needed were to cut off a piece of the retainer not needed (see photo) and elongate one hole with a rotary file or round hand file to match the bottom hole in the rear of the Cad case.

The remainder of the existing holes in the transmission case are blocked off by screwing short threaded cap screws into them, cutting off the excess and then using a file to smooth any protruding bolts. New holes were then drilled and tapped in the case to match the holes in the flange of the new bearing retainer. Cap screws which were not long enough to project into the case were selected to hold the retainer to the Cad trans.

The mainshaft from the Cad transmission was next cut off and resplined to the proper length and size so that a Chevy universal joint could be used. After the shaft was cut and resplined, a hole was also bored and tapped into the end of the shaft so that the universal

continued next page

GEAR BOX

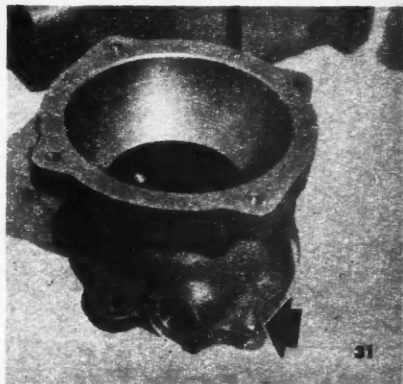
the cad-lasalle gear box, the popular answer to transmission problems for chevys too

Photo Story by Eric Rickman



Rear bearing retainer is from a '54 Chevy four-speed transmission. Piece at left not needed with Cad box, is cut off, discarded.

Hole to right of speedometer drive socket can be elongated with a round file so that it will match up with lower hole in trans.

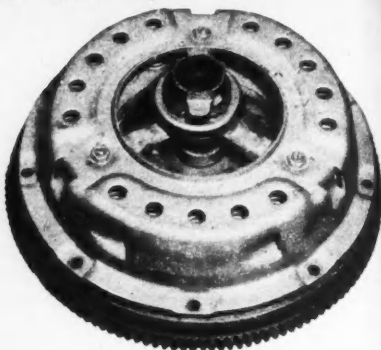


Thick aluminum adaptor made by Lyon Engr., center machined to hold Cad front bearing retainer against stick shift trans.

BIG CHEVY SIX GEAR BOX continued



Machined seats in modified rear bearing retainer match the Cad bearing and snap ring perfectly. Old holes must be plugged.



Heavy duty truck clutch with coil springs was used to replace the diaphragm spring Chevy type. Throwout bearing is Cadillac.

retaining bolt could be used.

At this point, work on the transmission is complete but the torque tube driveshaft must now be shortened so that it will bolt to the longer transmission assembly. Both the torque tube and the drive tube inside must be short-

Special clutch, Chevy bell housing, Lyon adaptor, Cad-LaSalle trans and modified Chevy rear retainer all ready to fit car.

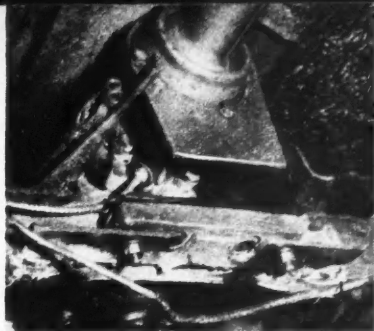


ened the necessary amount to make things fit. Most automotive machine shops can alter the tubes pretty cheaply.

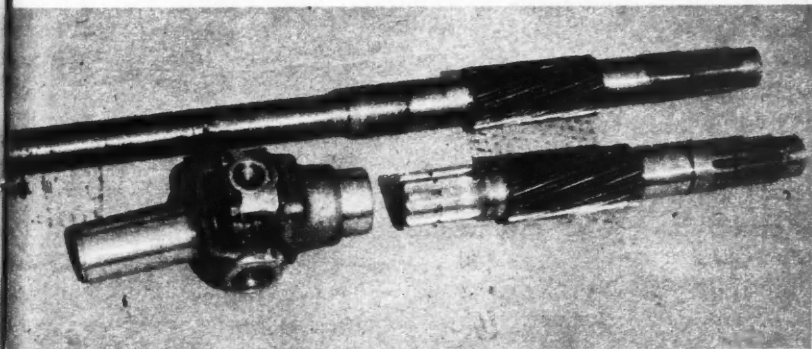
With the longer transmission, the original rear mount can no longer be used. The top flange of the center crossmember must be trimmed away slightly to give clearance between it and the trans, then a piece of 2" by 2" angle iron welded to the rear of this member. The angle iron replaces any crossmember strength that may have been lost by cutting and also provides a base for relocating the rear mount. Steel plate is cut to fit between the rear mount insulator and the rear bearing retainer bolts, then welded into a sturdy bracket to support the rear of the transmission. The emergency brake brackets on the crossmember must be extended slightly to miss the newly devised mount.

The Cad boxes will fit into almost any of the torque tube Chevy chassis and will certainly provide the best available in gear ratios for hot drag machines. Whether you use the floor shift or the column shift Cadillac box, the results will satisfy you.

Steel plate is cut to fit between the Cad trans and new mount. With gussets, bracket gives sturdy support to rear of engine-trans.



Center crossmember was notched on top to clear new trans. Angle iron on rear provides base for relocated Chevy rear mount.



Long shaft is stock mainshaft from Cad-LaSalle trans and other is a shortened version of same to match the Chevy U-joint at rear of reworked trans. Bolt locks U-joint to shaft.

ANOTHER LATE MODEL product that fits the "easy-to-customize" category is the '55 Chevrolet. Like last month's Plymouth project, you'll find that only a minimum amount of restyling is necessary when transposing the late Chev's body style into true customized appearance. Assigned to handle the hardtop's restyling capers this month is our new illustrator, Bob Cardaret.

Body Modifications

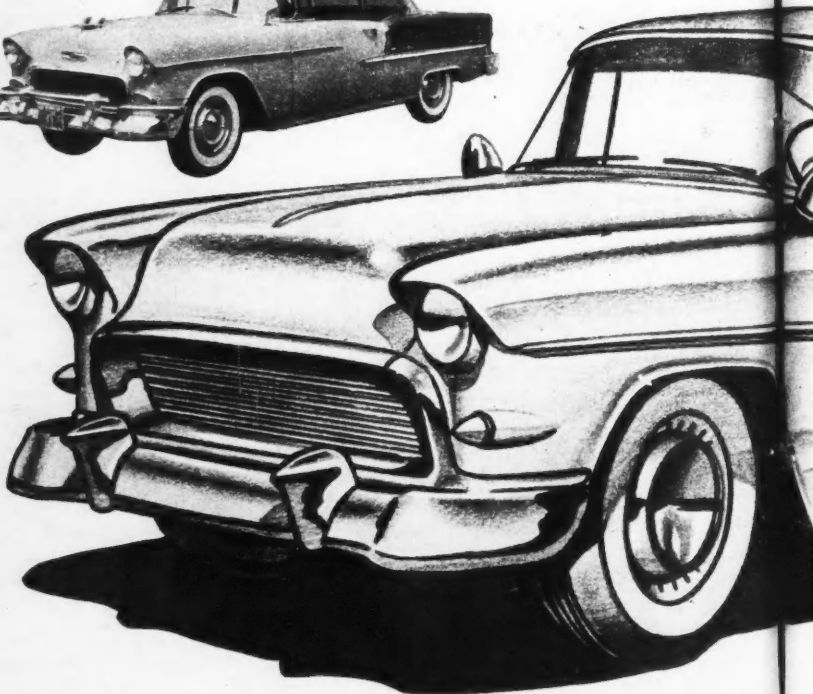
Like all restyled cars fitting the semi-custom classification, the body of the Chev was treated in a conservative manner. Largest alteration, aside from removing the door handles, is the side trim. Stock rub strips were completely discarded and two '56 components were used to strike a balanced harmony between the body's belt line and that of the side trim's

contour. A '56 Buick trim spear was employed, running from the headlight back to the rear of the door. At this point, a section of the '56 Ford side trim was spliced in, closely matching the body's window line rearward.

Hood, Grille and Headlight Modifications

The hood's two emblems have been removed, lending a clean and unobstructed appearance to the Chev's blunt shaped bonnet. The headlights have been deeply shaded by using late Chevrolet truck headlight rims. A special large chromed metal frame was made up to surround the grille opening, then chromed metal straps were inserted horizontally in the cavity, accentuating the additional width. Since the larger grille frame necessitated removing the stock parking lights, small '56 Buick parking light lens and rim units

RESTYLING T



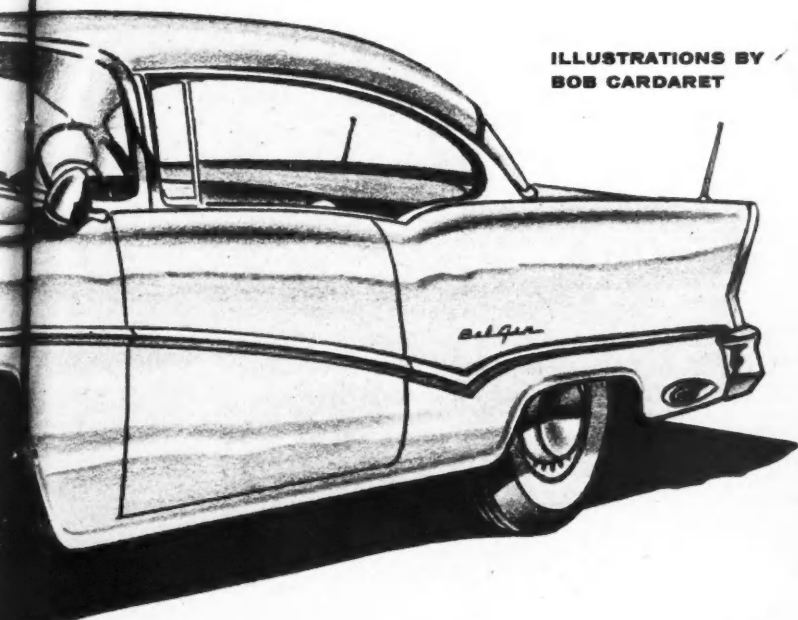
were neatly faired into the corners of the front fenders with special-made sheet metal housings. Front bumper end guards and the center horizontal guard piece have been removed to simplify front end styling. Stock vertical guards are still retained.

Rear Fender and Taillight Modifications

Slender '56 Buick taillights and chromed housings replace the Chevrolet's stock blinkers which give the stylish hardtop a much heavier appearance along the rear fender area. Exhaust tips have been routed out through the lower sides of the rear fenders, utilizing '56 Buick portholes (hood trim) for novel shaped protective openings. Gas spout cover, normally situated in left rear fender, has been filled in and the gas tank's filler neck re-routed to the inside of the trunk compartment. Stock rear

bumper's modifications consist of small '56 Buick license plate guards being molded directly to the bumper on both sides of license plate. End guards of the Chev's bumper were redesigned to harmonize with the taillight and side trim installation. Chrome exterior trim of deck lid has been discarded and lid is now actuated with an electrical push button system operated from inside on dashboard. The body of the car has been lowered a conservative two inches both fore and aft. Trim accessories such as twin radio antennas, spotlights and special '55 Buick hubcaps are all optional equipment. Much of the original design is still retained in Bob's restyling treatment. Note that he placed heavy emphasis on headlight, grille and taillight innovations, not distorting the over-all appearance of the car. But rather pointing up these highlights in a well balanced manner.

THE '55 CHEVROLET



ILLUSTRATIONS BY
BOB GARDARET

CONTINUED

RESTYLING THE '55 CHEVROLET

continued

LAST MONTH YOU likely noticed quite a different technique used for our monthly restyling drawings. And if you looked a little closer at the illustration "by line" accompanying those beautiful pencil renderings of the '55 Plymouth, you saw that we have added a new member to the CAR CRAFT's restyling section, namely, Bob Cardaret. Bob, who has experienced a highly successful career in automotive design and styling for his young twenty-five years, is now an active automotive design instructor at Los Angeles' renowned Art Center School in the industrial design program. The story behind Bob's rapid climb to success has almost story book ingredients. At 15, competing in the junior class of the national Fisher Body Contest, young Cardaret won second place and a cash award of fifty dollars with his specially designed automotive model entry for the state of California. The following year, more enthusiastic than ever, Bob re-entered with a new automotive model and walked away first place regional winner of both California and Nevada. This victory netted him an all expense paid trip to Detroit for the Fisher Body contest's national convention in addition to another nominal cash award. In 1950 Bob struck pay dirt, compet-

ing in the senior class he again won the California-Nevada regional first place award and was among eight national winners who were all graciously awarded a four thousand dollar scholarship to any school of their choosing. Upon finishing high school at Whittier, California, Bob enrolled in the Art Center School of Los Angeles, majoring in, of course,

PARTS AND PRICE LIST

	Labor	Parts
Remove trim from hood	25.00
Build special grille frame, flat metal		
Inserts and chrome	175.00
Construct deeply shaded headlights	70.00
Install special park lights		
('56 Buick)	30.00	9.00
Rework front bumper filling bolt		
holes and re-chroming	35.00
Install side trim		
('56 Buick and Ford)	60.00	30.00
Remove door handles and install		
electrical push button system	50.00	19.95
Fill in gas filler cap in left rear		
fender and re-route gas tanks		
filler neck	40.00
Install taillights ('56 Buick)	100.00	80.00
Shave deck lid and install electrical		
push button system	25.00	9.95
Modify rear bumper and rechrome	50.00	5.00
Re-route exhaust tips through		
fenders ('56 Buick portholes)	30.00	4.00
Paint job	140.00	
	\$800.00	\$187.90
	187.90	
Total	\$987.90	



ET

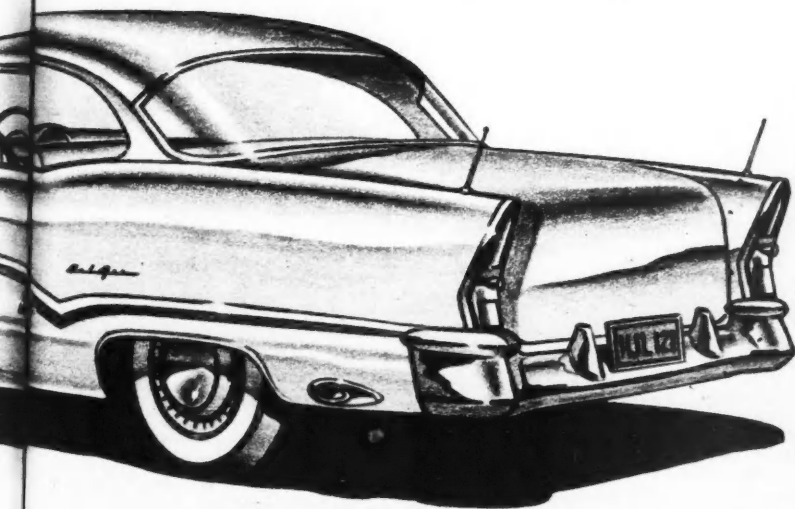
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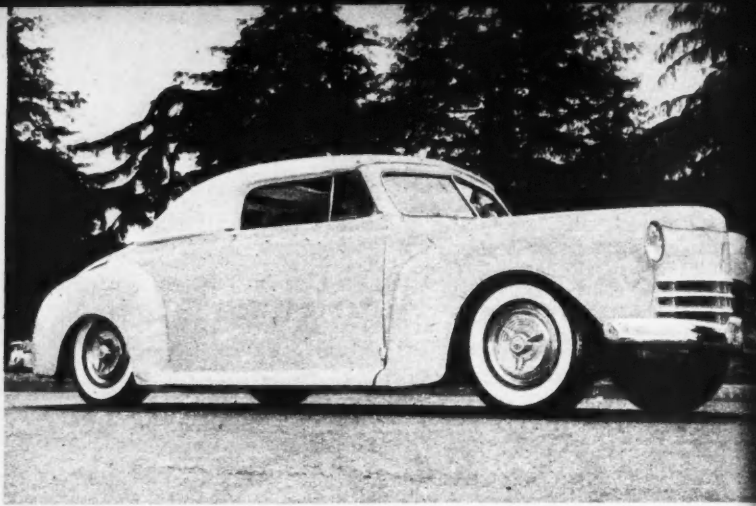
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automotive design. After four years of intensive study Bob's biggest break was yet to come. In 1953 he was hired to work for General Motors as a designer in the Chevrolet Studios. Here, for three years, as a senior designer, he played major roles in designing and styling the '56, and yet to be released, '57 Chevrolets. He is credited with styling much of the '56



Chevrolet Corvette, also had a hand in turning out Chevrolet's latest prototype experimental models that have toured the country with General Motors' fabulous "Motorama" auto show. Bob states that he's open for any inquiries from CAR CRAFT readers and for those of you who wish to write to him, can do so by writing: Car Craft Magazine, Bob Cardaret, 5959 Hollywood Blvd., Los Angeles 28, Calif.





Considerable modification took place up forward after the radical body channel was completed. The hood was sectioned some 4 1/8-inches and fenders raised, which brought about the low, Continental appearance. Artistic striping adds flavor to the Twilight Blue paint job. Front and rear springs have been mildly de-arched.

"I went the route"

young backyard customizer,
Harry Costa, chops, channels and
sections his own '41 Ford ragtop

Photos by Bob D'Olive

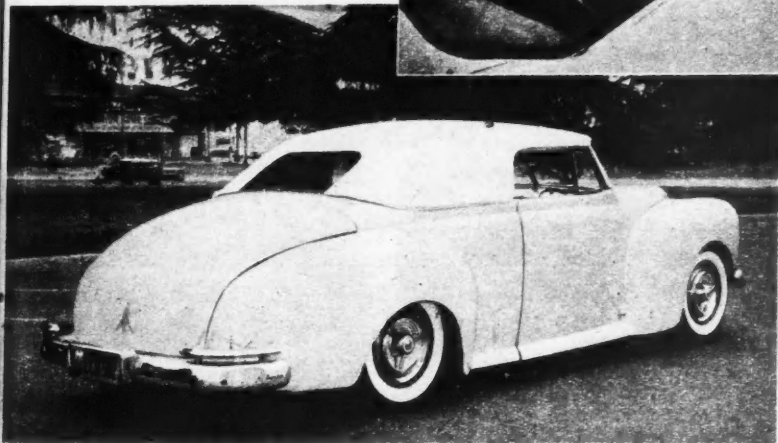
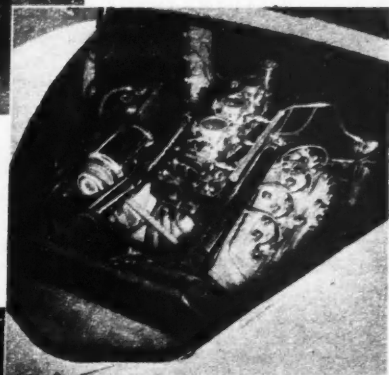


'50 Pontiac bumper and guards have been neatly altered to house special built-in taillights. The exhaust has been routed out through bumper.

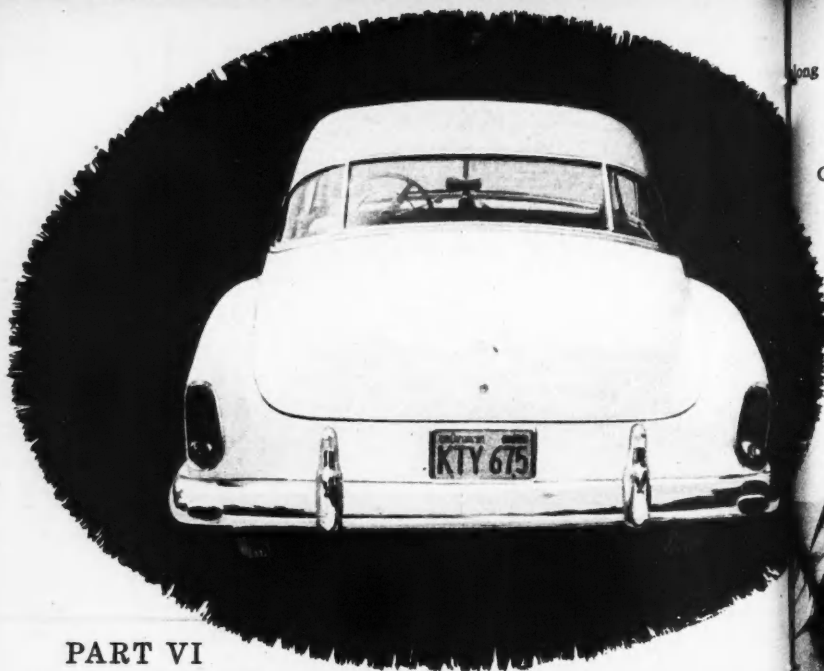


Working spasmodically over a long period of time, Harry Costa, hailing from South San Francisco, California, created this '41 Ford smoothie in his backyard workshop. Lending the low ragtop its coveted styling are the filled body and fender seams and a full six-inch body channel over frame rails. Frenched-in headlight rims and grille bars are from '48 Ford.

Cozy engine compartment houses warmed over Merc powerplant. Large rack of electrical solenoids actuate the trimless doors and deck lid. All interior upholstery and chopped, padded, top was expertly handled by C. H. Hall's Upholstery Shop located in Oakland, California.



Costa's custom serves as good example of the smooth, bulbous styling that can be restored into Henry's popular '41 Ford. Note how fenders have been smoothly molded into the body, giving the 3-inch chopped coupe its compact appearance. Both front and rear bumpers are from a '50 Pontiac. License plate guards are '49 Chev.



PART VI

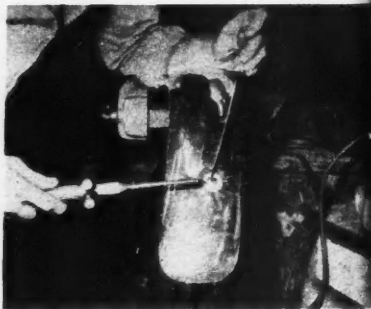
CUSTOMIZING THE CHEVY

by Dick Day

How to Fill Bumper Bolt Holes

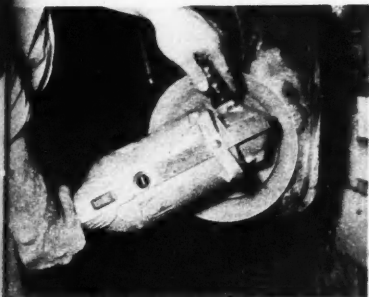


1. First grind surface of bumper smooth. Countersink the hole slightly with file.

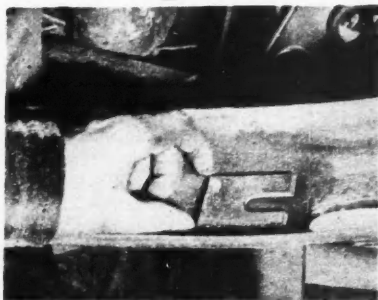


2. Next, with a 1/8-inch welding rod, weld the bolt hole completely closed.

"HOW TO FILL bolt holes in bumpers?" That's the question accompanying mail inquiries these days and one that we have waited 'til now to spring at you along with this month's "Customizing The Chevy" article on building your own bumper tip exhaust system. The method of eliminating the bolt holes is very simple, but yet a method that requires, if the job is to be a lasting success, that it be done the *right way!* The process outlined for you on the following page is one that has been thoroughly put to test with guaranteed results. The second part of this month's Chevy caper is that of fashioning your own bumper tip exhaust system. As you can see, we built our exhaust openings around the oblong tip design. We employed ordinary accessory tips that can be produced at any leading automotive accessory store. Other various shape exhaust tips, whether oval, square, etc., will lend themselves to the same following procedure. The only other essential items necessary to complete the job are two pieces of $\frac{1}{4}$ " x $\frac{1}{8}$ " hot roll strap iron used to encircle the exhaust tip openings. One of the major advantages of this type of exhaust outlet, other than its up-to-date sleek appearance, is that it allows those who like their cars with a minimum amount of ground clearance (radically lowered) a novel innovation for tucking the exhaust tips in and up out of the way. Although this particular exhaust treatment was performed on our monthly Chev project, it is easily duplicated on all model cars. We wish to thank the Barris Brothers Custom Shop of Lynwood, California, for this informative photo story.



3. After hole is welded closed, again employ grinder, grinding surface smooth.



4. Heavy metal slotted plate is used for bolt anchorage. Mounts inside on bumper.



5. Each heavy slotted plate is securely welded to the inside of the bumper.



6. Bolt, minus head, is placed into slot and welded. Rechroming is last step.

CONTINUED



Building Bumper Tip Exhaust continued



1. When determining position of tips use attachment hole for measuring guide.



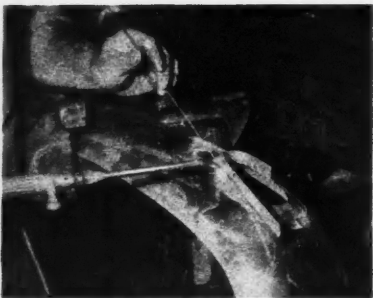
2. Exhaust tip is placed over center marks and outline of tip traced.



3. A cutting torch is now used to cut opening into bumper along scribed line.



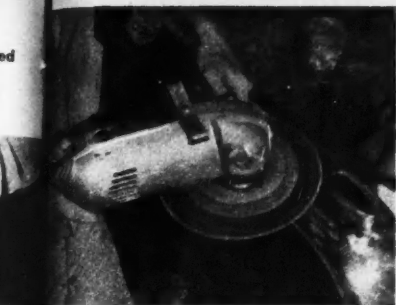
4. $\frac{1}{8} \times \frac{1}{2}$ " strap is tacked to edge of opening, then bent to encircle opening.



5. After encircling half the opening, go back and weld strap solid to the bumper.



6. When welding the strap to bumper, build up the weld bead as shown here.



Once metal strap is secured around opening, grind and contour welded edges.



8. A small rotary file and electrical drill are used to clean up the opening.



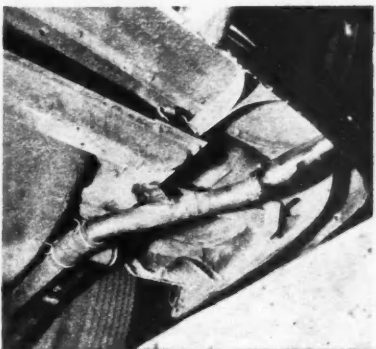
A hand file was used to bring the mold-appearing opening to final perfection.



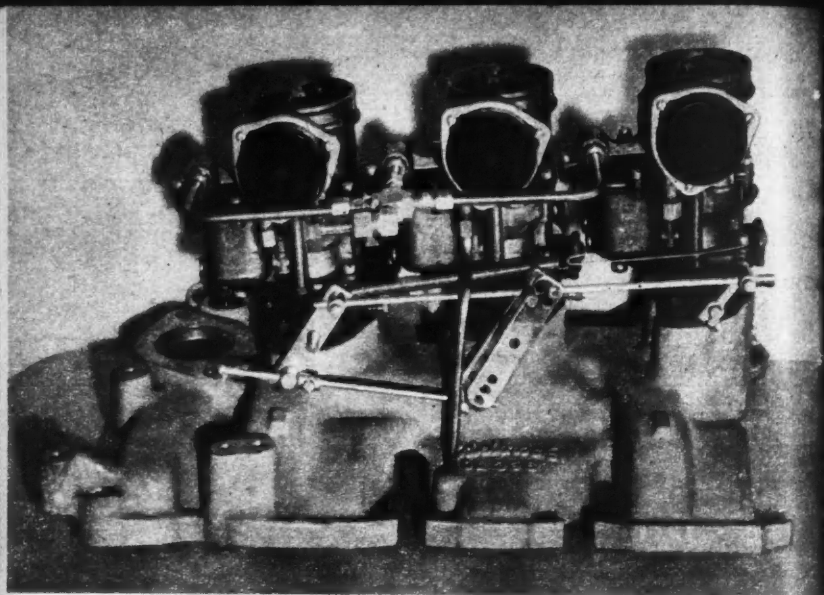
10. Exhaust tip should be checked for fit and appearance before securing tools.



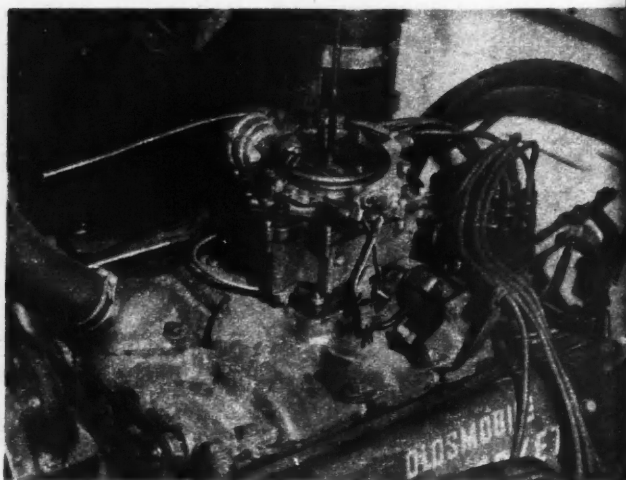
11. The side rear bumper brackets need to be modified slightly and slotted.



12. Rubber coupling is used to connect tip and short pipe to exhaust system.

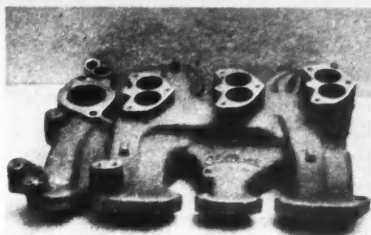


by Ray Brock



Stock 1953 Oldsmobile has Rochester four-barrel carburetor. Radiator and block must be drained before removing the stock manifold.

from the distinguished house
of Edelbrock comes
a manifold linkage kit
with a real future



Edelbrock triple intake manifold uses either Stromberg or Holley carburetors and has manifold exhaust heat for quick warmup.

PROGRESSIVE TRIPLE CARBURETION

rock

THE FOUR BARREL carburetor which is standard equipment on a good portion of today's modern V8 engines is, as you probably know, actually two carburetors in one. The front or primary side of the carburetor has an idle system, power system, automatic choke, accelerating pump and a bowl and float assembly just like a regular two-throat carburetor. The secondary side or the rear half of the carburetor is designed to work only when the engine is being worked far above normal demands and because of this reason, has only a single metering jet for each venturi, a float-bowl assembly but none of the other extra items needed in the primary side.

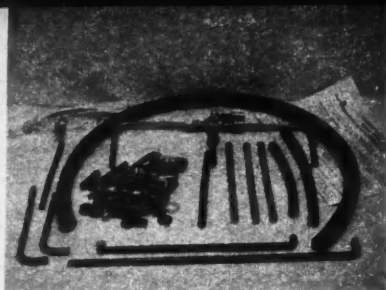
With such a two part carburetor, one pair of venturii is used for normal operation so that a high volumetric efficiency can be maintained with good fuel distribution and economy at low and medium engine speeds. The other pair of venturii join the primary pair at higher engine speeds to provide more air-fuel mixture for power. As we have stated many times in the past, the modern overhead valve V8 engines are capable of using lots of air at high speed, even more than a four

barrel carburetor will supply.

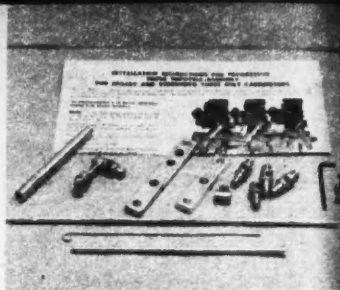
Because of the increased demand for air and fuel at high rpm's, one of the popular bolt-on items for hot rod enthusiasts is multiple carburetion. The only thing wrong here though is; suppose that your engine has a triple carburetor manifold and you want to increase the throttle setting while cruising down the road. After a bit of "stumbling" the car will start to move but the sudden opening of six throttle valves in the three carburetors completely overcarburetes the engine for a short period while it struggles to pick up rpm's.

To iron out the poor low speed characteristics of multiple carburetion on a street machine, the Edelbrock Equipment Company of Los Angeles has developed a universal throttle linkage kit for triple manifolds which gives progressive throttle openings to the carburetors. The linkage can be adjusted so that the engine operates on one pair of venturii like a quad carburetor for normal cruising speeds and then the other two carburetors can be brought into operation to meet increased engine demands just like the secondary venturii

CONTINUED



Regular accessory kit for triple manifold has new throttle shafts, fuel lines, etc.



Progressive throttle linkage, it will fit any manifold, has all necessary pieces.

TRIPLE CARBURETION continued

of a quad carburetor. Operating on two venturii around town gives good mileage and the total venturii area of the six throttle valves in all three carburetors gives the large air-fuel supply needed for maximum power.

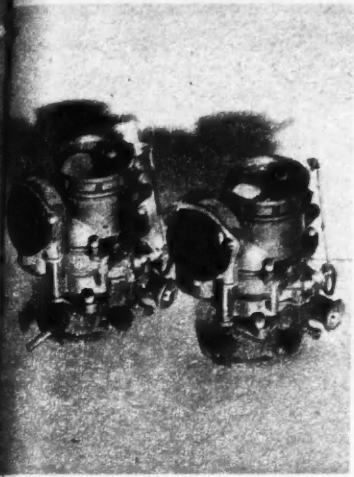
All carburetors are operated by mechanical linkage and can be set up in several different ways. The center carburetor on a triple manifold can be used for cruising and the other two set to start opening at either $\frac{1}{2}$ or $\frac{1}{3}$ throttle opening of the center throttle valves with all three reaching full throttle at the same time. The linkage can also be set so that the two end carburetors operate on normal throttle with the center carburetor brought into use at $\frac{1}{2}$ or $\frac{1}{3}$ throttle for high speed operation and all three carburetors reaching full throttle at the same time. A simple adjustment can be made to operate all three carburetors simultaneously for competition.

We stopped in at Edelbrock's shop recently and took a few pictures while Vic Edelbrock installed one of his new triple carburetor manifolds on his own 1953 super "88" Oldsmobile coupe. Three Holley R1156A ('56 Ford) carburetors were used but since they are made to use throttle linkage on the right side of the engine, throttle shafts in the carburetor bases were replaced with special long shafts included in the Olds manifold kit so that an extension of ample length would project on the left side of the carburetor to align with the Olds throttle linkage assembly. The only other alteration made on the carburetors was to block off the upper half of the Holley split vacuum system on the center carburetor for the ignition advance so that only the manifold

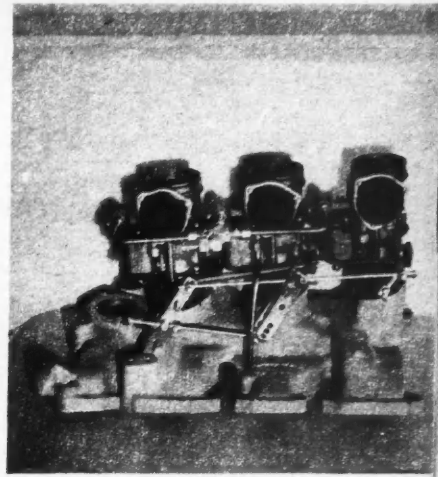
vacuum side was used. This was done by grinding a sharp point on a $\frac{1}{16}$ " diameter piece of welding rod, then driving the point into the upper passage at the back of the vacuum outlet hole. The rod is cut off flush with the carburetor and the end will fit inside the tube from the ignition without obstructing vacuum flow. The automatic choke adjustment on the two end carburetors is loosened and rotated in the "lean" direction until the choke valves are completely open. The automatic choke on the center carburetor is left in normal operating position. This will give normal choke on the center carburetor for normal operation but will insure that the other carburetor chokes will open when they are used. Metering jets in all three carburetors were left stock size.

The progressive linkage was then hooked up as shown on the instruction sheet, so that the middle carburetor would be used for normal operation and the two end carburetors would start operating at $\frac{1}{2}$ throttle. A test run was made and a bit of adjustment needed on the throttle rod to the Hydra-Matic before everything was just right, but once these were made, it was impossible to distinguish that the engine had three carburetors except at maximum throttle settings where there was a noticeable increase in power. The total area of the six 1- $\frac{1}{16}$ inch venturii in the Holley carburetors was 5.32 square inches as against the total of 3.91 square inches in the '56 Olds Rochester quad carburetor. The increased carburetion was achieved without sacrificing smooth low speed performance and economy so it looks as though Edelbrock should have a fast selling item in their new progressive throttle linkage kit. If you have multiple carburetion, maybe it will help you.

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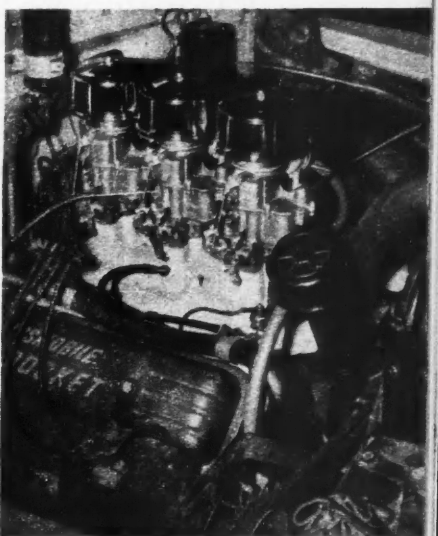
Holley R1156A carburetors are used on '56 Ford standard models. One at left has been fitted with long throttle shaft for linkage.



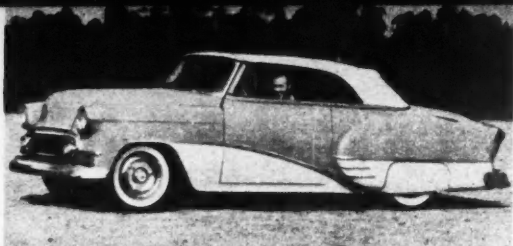
Ready to go on the engine. Progressive throttle linkage is set so that two end carburetors start opening at half throttle.



Edelbrock makes the final check on installation. Only center automatic choke is operative on the progressive system.

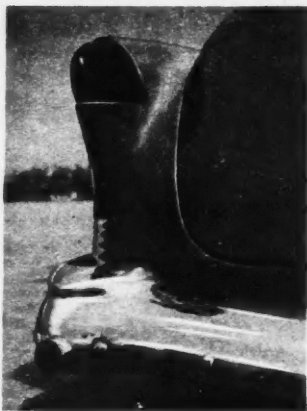
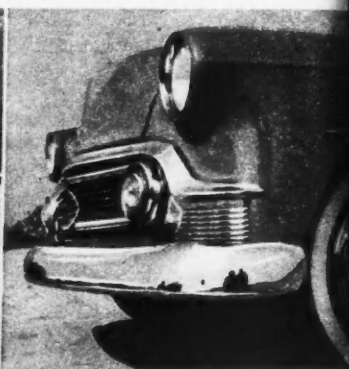
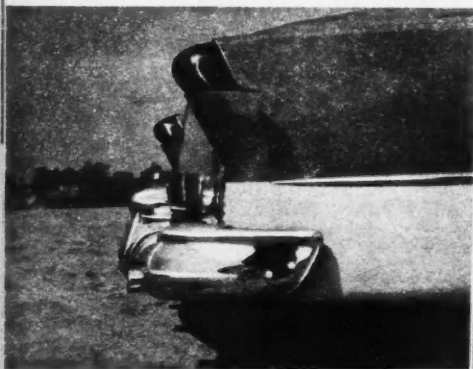


Completed installation has accelerator pumps set on middle stroke. Vacuum take-off for ignition is from center carburetor.



An inexpensive method of joining the custom car fraternity is to start out with a car that has been in a collision and sold—"As Is." This is the story behind George Hayo and his '53 Chevy convert pictured here.

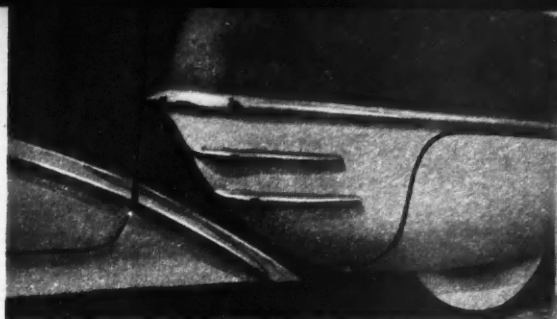
STYLISH STOVEBOLT



Headlights have been frenched to fenders utilizing '53 Ford deeply tunneled beam light rims. Large '54 Packard taillights have replaced the stock blinkers. Small diameter welding rod was used to create edge of taillight's openings. Sheet metal was employed to fill in extended area. Exhaust tips have been routed out through '51 Oldsmobile rear bumper. Deck lid and doors are absent handles and now operated by an electrical push button system. Robbie Martinez of the Broadway Auto Body Shop did all restyling work on car.

trim design of Chev was
 achieved by adapting '55 Buick
 and '54 Merc rear fender
 bars. Top strip on rear
 is stock '53 Chevrolet.
 that lower rocker panel
 moldings have been discarded
 that rear fender skirts have
 been filled to match with
 lower stock body line.

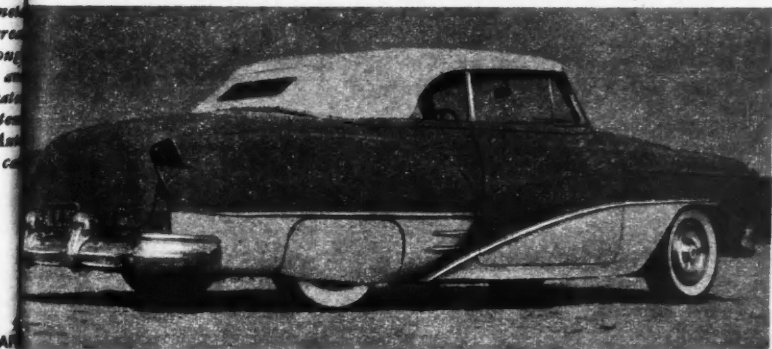
Photos by Bob Hardee



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Ford grille center section was neatly
 placed into stock Chev parking lights.
 Unless hood has been slightly peaked,
 front bumper bolt holes have been elimi-
 nated (see page 40) for trim appearance.

Body of car has been lowered some 3 1/4-
 ins. both front and rear. Augmenting low
 appearance is chopped center bow of
 top. Top still operates hydraulically.
 Lindenwald's Shop of El Cajon did work.



Accessory of the Mo



ROTO-FAZE

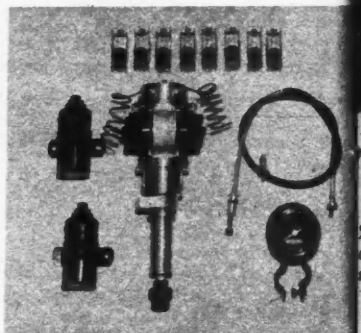
dual coil ignition

GETTING THE SPARK to the plug at the right time and in the right volume is the purpose of the recently developed Jackson Roto-Faze dual coil ignition for all of the late overhead valve V8 engines. Charles Kong Jackson is the same guy who gained no slight fame and experience building Kong ignitions for the flathead Fords for several years.

This latest device from JERD (Jackson Engineering Research & Design) has a fully centrifugal advance mechanism, adjustable to fit any advance curve. Genuine Ford points and condensers are used in the ignition to insure ease of repair. Another feature on T-Bird ignitions and optional on those for other cars as well is a tachometer drive takeoff in the base of the ignition.

For our pictures, the car getting the treatment is a '49 Ford convertible with a bored and stroked Oldsmobile engine. The detailed instruction sheet was followed and results were quickly noticed by the owner after the installation was complete and the timing set. With the

extra bore and stroke in the engine, compression had been raised to a point where stock ignition didn't do a satisfactory job. With the Roto-Faze, starting troubles were eliminated and a much sharper running engine was reported at all speeds.

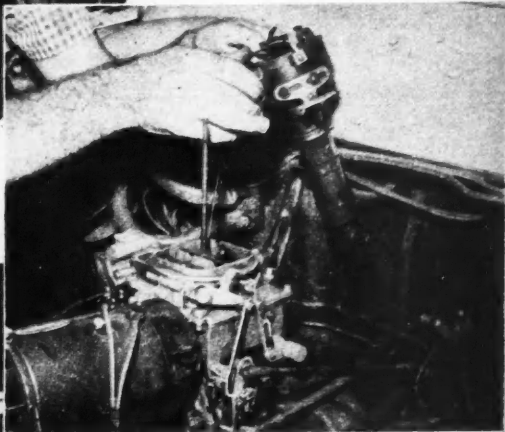


1. Pieces used are ignition, two Ford coils, S-W tach, tach drive. New plugs optional.

Photos by Tom Medley

2. Stock Olds ignition in Ford chassis fits up close to the fire-wall. Roto-Faze is small, will fit.

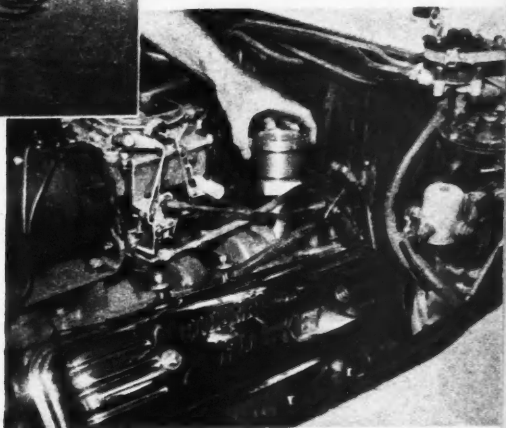
1. Stock ignition and coil are removed from engine. Set ignition on number one cylinder at start.

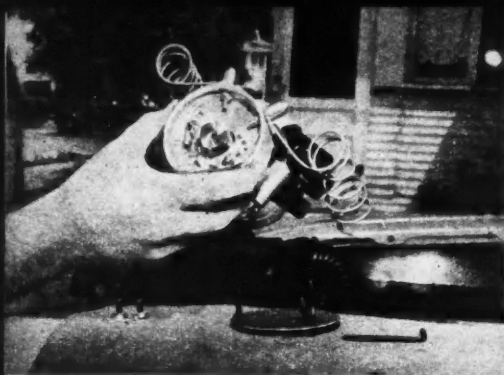


4. Remove top of Roto-Faze from the base. Top fits back in any position, is held by two locking bolts.

5. Drop base into block and engage cam gear and oil pump. Lock base so that degree marks are to front.

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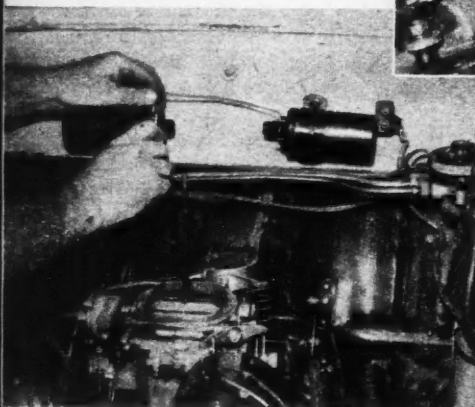
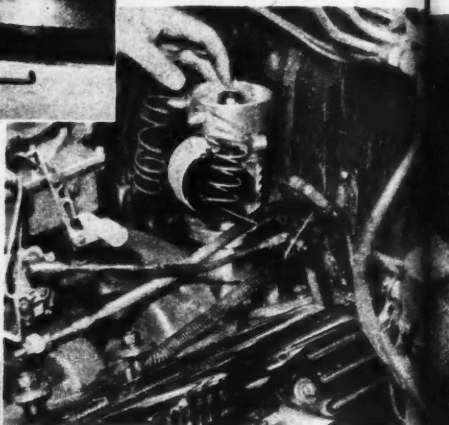




ROTO-FAZE

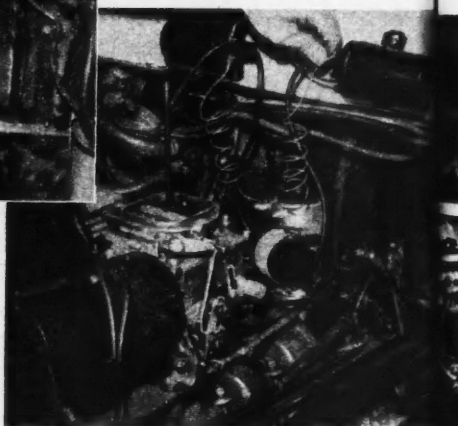
6. Remove plate from top part of distributor and set shaft position from direction sheet to number 1.

7. Place top part of ignition in base, engaging gear. Lock bolts down to hold in pre-adjusted spot.



8. Two Ford coils are next mounted to firewall and hot wire from the ignition hooked to pole of each.

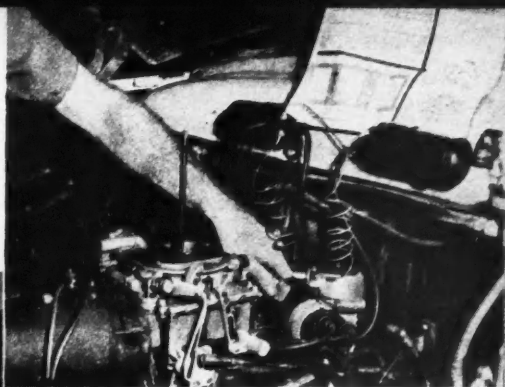
9. Primary wires and secondary leads from coils are hooked to the coils, keeping them paired off.



Equal coil ZEmition continued

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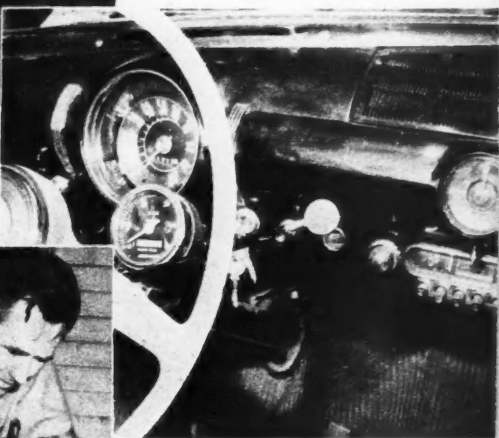
10. Using instruction sheet, leads
to plugs are installed in distrib-
utor caps in their proper order.



11. Ignition installation complete,
hole is drilled through the firewall
to accommodate the tach cable.

nted
the
tach.

12. Stewart-Warner mechanical
tach can be mounted in the dash or
on steering column, very accurate.



13. Final step is to fire up the
engine and adjust the timing.
Results far surpass old stocker.

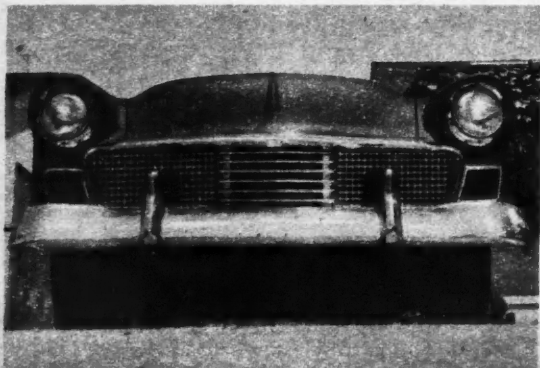
GRAB BAG

Photos by George



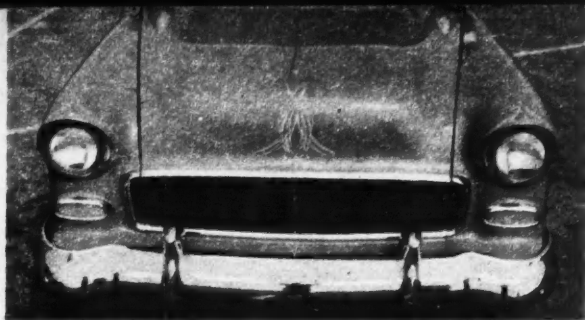
One of the more popular transpositions for the Chevy is to remove all the horizontal grille leaving only the vertical bars in the oblong opening.

young custom enthusiasts aren't wasting any time in modifying the '55 Chevrolet grille. If you have any doubts, then check out these cagey styling treatments



Here a special grille assembly is created for the '55 Chev using a '56 Chrysler outer grille frame, 1-inch square mesh screen side pieces and 1/2-inch tubing for special center piece. Park lights are custom made also.



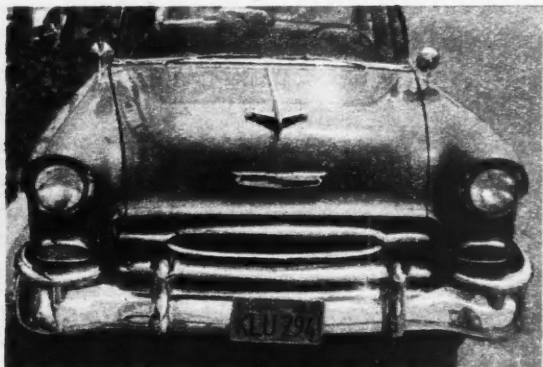


the opposite treatment is to remove vertical bars. One vertical bar is needed to support remaining horizontal bars.

Another slightly different style is this altered assembly, using only three vertical bars for support and design. You have seen grilles with only one other bar removed, horizontally and vertically.



Now is pictured the answer to a floating bar arrangement. The floating bar is made from the bumper guard assembly of a '55 Chevy. It is supported by obscure metal straps that are mounted in rear of cavity.

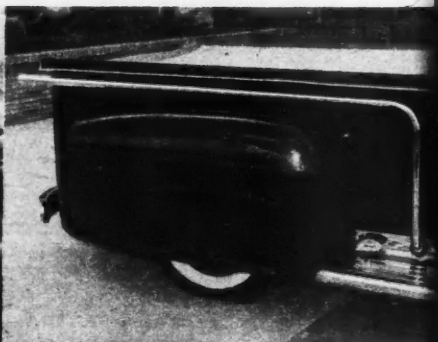


The '54 Pontiac center grille bar piece fits up nicely in the '55 Chevrolet's grille cavity. It is secured in place by metal straps that are positioned in the rear of the cavity, that fasten to latch bar and lower pan.

Custom Signboard



Because of the eye catching appearance of this customized 1950 Ford pickup, Babe Royer has a perfect traveling advertisement for his muffler shop in San Jose, California. A 3 1/2-inch top chop plus Dago front axle and de-arched rear springs were used to put the truck down to the road hugging customizer's level.



Black and white naugahyde interior was done by Bill Smith's Top Shop and a white rug fitted to the floor. The running boards were completely chromed with holes cut in the upright piece for special chromed tail pipes and racing plug outlet. The Wilbur Body Shop reworked the rear fenders so that '41 Merc skirts would fit and help look

are Royer's pickup
a traveling
advertisement for his
tuffler business



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photos by Eric Rickman



New paneling was fitted into the large Ford truck grille opening and then a '50 Nash grille installed. Bumper was reworked and thin white striping used on the maroon paint to add life to large flat sections.

Solid panel was installed beneath the rear of bed and '53 Pontiac taillights flushed to it. Black and white tarp snaps to the bed with pipes anchored beneath bed flanges. Once again, striping helps on flat areas.



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WHAT'S YOUR PROBLEM?



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TECHNICAL EDITOR

HERE IS OUR PROBLEM !

For several months, we have been keeping an accurate count of the letters that come into CAR CRAFT with requests for technical information. We read every one of these letters and answer every one having a return address, although some do not get a detailed personal answer. The total number of these letters is several hundred each month and by far the largest group are those letters from readers contemplating or in the midst of an engine swap. The most common inquiries are whether the engine swap being considered is possible and if so, just what are the detailed steps for making such a swap. Take every year car of every brand made since 1923, then multiply by almost every engine manufactured since 1934 and you will have a rough idea of just how many and what type engine swaps are apt to come into our office. We have discovered by what we have seen and heard that it is possible to put almost any engine into any chassis if you are ingenious enough but we do not have complete details on all of these combinations. The engine swaps which we try to present pictorially will, if studied, show the reader how somebody else got around a tight spot that arose when he tried to put a late model OHV V8 in his early chassis. Maybe the problem you will come up against in your swap won't be the same or even close, the idea is to figure out a solution for your particular tight spot by seeing how another guy used his head in a similar spot. The letters which we get sometimes run four pages in length and have as many as twenty detailed technical questions listed with an answer requested for each. Even if we knew all of the answers, which we do not, to answer completely would require far

too much time, especially when we have a magazine to put out every four weeks too. Please cooperate with us and we'll try to get your answers in the mail. Make your letters legible if possible by typewriter or ink. Put a return address on the letter and don't request an answer by return mail. We know that you are anxious to get started on your project but you will get going and perhaps figure out a few answers by trial and error method, you learn more and certainly beat the time it takes for us to wade through the hundreds of letters each month before we get to yours.

ADJUSTABLE PUSH RODS

Dear Ray:

I have a stock '55 Olds, and I plan to install adjustable push rods. Will this cause the cam to wear any faster or will it be the same amount of wear as stock pushrods? Also, are they be adjusted until no noise will be heard?

— Robert Patterson
Lake City, Fla.

You can install the adjustable push rods and expect no extra cam wear. Excessive valve spring pressures are what cause fast lobe wear. To use the stock cam with adjustable push rods you will have to use very close clearances in the hydraulic lifters are designed to keep zero valve clearance and the cam lobes do not have a conventional ramp. The clearance must be carefully adjusted to about .003 while hot. Any more clearance will make noisy lifters, any less and you are liable to burn valves. Get that adjustment right and they will be quiet.

PLYMOUTH ZEPHYR GEARS?

Dear Ray:

I would like to change my stock '53 Plymouth transmission for a good (street and track) "stick transmission" with little or no adapting needed. If this is not possible, then I would like to replace the stock gears for a Zephyr gear set. If not, what else would you suggest to do to get the best "go power"? I have a modified '53 stock Plymouth engine, with fuel injection system on the way.

— Paul E. Martinelli
Flushing, New York

I don't know of any "Zephyr" type gears for your transmission. If you want a good racing transmission and the strongest available, use an early Cad-LaSalle type, either floor or column shift. If you don't want to adapt it yourself, contact Transmission Specialists, 355 E. Main

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ester Blvd., Los Angeles, Calif. He specializes
putting Cad-LaSalle transmission behind any
engine and can give you a price on such an
installation.

TRANS FOR OLDS-FORDS

Dear Ray:

I have a '51 Ford in which I intend to in-
stall a '50 Olds engine. I would like to know
what would give the best performance and be
more practical, to keep my Ford standard
transmission and overdrive, or put in a '50
Olds standard transmission? If the Olds trans-
mission is installed, what kind of trouble
might I have?

— Wayne Dubuc
Morgan City, La.

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you can install the Olds transmission with the
engine and have a far huskier setup than the
Ford box. Linkage connections between the Olds
transmission and the Ford column shift are easy
and the only change that will be needed is a
higher ratio rear axle. The Ford 4.10 overdrive
gears would not let you get the most from your
engine. A 3.54 rear axle should be about right
for good acceleration and a good cruising gear.

ADD TWO CYLINDERS

Dear Ray:

I have a 1950 Olds Six cylinder with a
Hydra-Matic transmission, and would like to
install a '53 Olds V8 engine. What adaptors
would be necessary if I used the present trans-
mission? Would you recommend the installa-
tion of a stick shift transmission, and if so,
what would be the simplest and most economi-
cal way to do it?

— A/2C Dick Ellis
Jacksonville, Ark.

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Since your chassis was also available in the
'50 series when new, you shouldn't have any
trouble dropping a V8 into it now. The Hydra-
matic will also bolt to the Olds V8 although it
should be rebuilt with extra clutches to hold the
bigger engine. If you want a stick shift, write:
Transmission Specialists, 355 E. Manchester, Los
Angeles, Calif., they can sell you a complete kit
including clutch assembly and transmission to
make the switch.

TRANSMISSION SWAP

Dear Ray:

I have a 1954 Chevy Bel-Air Powerglide.
I would like to get more acceleration. What
kind of conventional transmission could I use
(Continued on page 61)

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WHAT'S YOUR PROBLEM?

Continued

without too much trouble? I have been told that a Corvette transmission would fit, but will it give any more acceleration?

— Larry Hightower
Las Vegas, Nevada

The first problem you will have is your closed drive line. It wouldn't be too hard to adapt a '55 or '56 Chevy stick shift transmission to your engine, then use the higher ratio '56 Corvette gears but the '55-'56 transmissions use an open drive line. You would have to change the rear end to use the open drive line. If you are after acceleration only, a cheaper and easier way out might be to use a lower rear end ratio and the Powerglide transmission.

ENGINE SWAP

Dear Ray:

Recently, I picked up a 1937 Ford touring car (Phaeton) and am very interested in doing what I can to fix it up at minimum expense. Could you please answer my questions? I have a 1950 Mercury engine and am wondering what trouble I would have installing it? Will the 1937 transmission take the power that the 1950 Merc will put out?

— Harry Putnam
Alexandria, Va.

The '50 Merc bell housing is all that is needed to hook the engine to the '37 transmission since the '50 Merc also used the early type transmission with the short bell housing, as part of the case. The '37 transmission will take the Merc power good. New front engine mounts will be needed in the '37 chassis for the Merc engine.

CARQUIZ ANSWERS

(see page 199)

- | | |
|------------------|-------------------|
| 1. '56 Chrysler | 4. '56 DeSoto |
| 2. '56 Chevrolet | 5. '56 Mercury |
| 3. '56 Pontiac | 6. '56 Studebaker |

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WIRE WHEELS — WHERE TO GET THEM

Dear George:

I have a '51 Chevrolet and wish to adapt genuine wire wheels to it. I've looked high and low for the genuine articles but to no avail. Could you possibly suggest where I might be able to obtain a set and approximate cost?

— *Gene Kennedy*
Grants Pass, Oregon

Motor Rim and Wheel Company, 2860 E. Pico, Los Angeles, Calif., is the only place that I know of that could give you your needed information. This particular question falls a little out of my line. I'm sure that they would be more than happy to forward you information and cost estimates.

'40 FORD BUMPERS — WHAT TO USE?

Dear George:

I wish to remove my stock '40 Ford bumpers and replace them with something that has a little more custom appearance. I have seen several component switches in the magazines, but now that I am ready to do the job, I can't remember just what they were. Can you give me a few suggestions from your past experiences? Also I would like to know what modifications will be involved?

— *Donald McNeil*
Durango, Colorado

Best bumper suggestion I have for you, Don, is to make use of the '47 Ford bumpers for your '40 Ford. Your stock bumper brackets will have to be altered slightly to align with the '47 Ford bumper's attachment holes. If you are fortunate

enough to have in your possession an April issue of **CAR CRAFT** (we are all sold out), will find a step-by-step story on just such an alteration. For a second choice, I suggest '37 DeSoto bumper, which was very popular out here on the coast 'til they practically came extinct.

NEW HOODS — NEW PROBLEMS

Dear George:

I have just purchased a new '56 Ford and wish to remove the hood ornament. As you know, the ornament is concaved into the hood and requires, when removed, that the opening be filled in. What do you use to fill this opening, and what do you suggest for metal prep — hammer welding or leading?

— *Jim Hawthorn*
Logan, Utah

You've practically solved the problem for yourself, Jim. After removing the hood's ornament, cut a small piece of sheet metal to fill the concaved area where the ornament was attached. The filler piece will have to be shaped to conform with the hood's contour. Braze the metal piece solidly to the hood, smoothing off roughly with an electrical grinder. Can't weld beads with rotary brush. Next apply lead to the working area. When cool, use a vixen file to work the surface to perfection.

ROUND ROD QUERY

Dear George:

I am somewhat confused, and call upon you to straighten me out on the subject of using round rod for finishing off frenched headlight jobs, and other various innovations, employing this similar method. First, what type iron rod is used to lend a frenched headlight its smooth rolled and tucked edge? I have noticed several times that round rod or large diameter tubing has been used to finish a grille cavity — is this true? If so, what type of tubing, material wise that is, is used to do such a job? You see I have a young teenager that has asked me to help him custom build his late model Ford, and although I have a good background of welding and brazing, find myself a little unfamiliar with the procedures you experienced men use for restyling. I would greatly appreciate it if you could give me a few pointers on the use of the above mentioned items — thank you.

— *Mr. John Miller*
Idaho Falls, Idaho

April headlight and taillight work we usually use
 out, hot roll iron rod. It's hard to say just what size
 use, because this depends largely upon the
 t such we are working on. I'd say that the $\frac{3}{8}$ "
 ggest ed is used in most cases. I would like to men-
 y popu tion that in many cases where we wish to
 ically obtain a small bead around an opening we
 MS make use of regular welding rod of various
 diameters. Cold roll iron rod is used in some
 instances where the contours are not too severe,
 but generally you will find that the hot roll
 material is much easier to bend and to work
 with. For grille work we usually make use of
 Ford regular exhaust pipe tubing of various diam-
 As ters, depending again on the job. We find that
 the open- cutting the pipe straight down the middle
 his op- with a hacksaw, and laminating only half of
 pro up against flat body panels or hoods, works
 at the best. Also, when corners or curves are
 encountered, we can make use of standard ex-
 aust tubing "U" bends to great advantage,
 saving us considerable labor.

METEOR GRILLES — WHERE?

for rname the se is either George:
 hapo I've seen several late model ('49-'51) Fords
 raze with a Meteor grille installed in them. I have
 othing '50 Ford and wish to install one in it but
 r. Can't seem to find one anywhere. Can you tell
 ply me where I might procure one and what will
 l, be involved in the installation?

— Bob Neefus
 Long Branch, New Jersey

Albert Craft Grilles in Ontario, Canada, stock
 is item. The installation is a simple one and
 can be accomplished without too much work.

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HOME ENGINE TUNE-UP

continued from page 19

tween their contacts will be of the correct width when the points are opened by the breaker cam. To check the gap turn the distributor shaft to place one of the lobes on the cam under the rubbing block on the movable point arm — make sure the block is on the highest point of the lobe so the arm is lifted as high as the cam can lift it. Check the gap between the contacts with a round gauge of the specified diameter. If the gap is too wide or too narrow, change its width by moving the stationary point with the adjustment means provided in the distributor. This is a critical adjustment so take sufficient care to make it as accurate as possible.

After adjusting the point gap wipe the circumference of the breaker cam with a clean cloth and apply a thin coat of distributor cam lubricant to the cam. If lubricant of this type isn't available, use wheel bearing grease or some other type of high melting point lubricant that won't readily become viscous at normal engine temperatures and be thrown onto the breaker contacts. Any grease on or between the contacts can be removed by cleaning them with carbon tetrachloride and a small brush. Make certain that nothing, such as a piece of lint, abrasive, or other matter that might prevent the points from closing is left between the contacts after they have been cleaned and spaced.

Whenever the gap of distributor points is changed for any reason it becomes necessary to reset the ignition timing. This is usually done with a timing light but if one doesn't have a light an acceptable job can be done by one of several other sufficiently accurate methods.

Presuming that the ignition distributor has not been removed from the engine, prepare to adjust the timing by turning the crankshaft to the position where the timing mark on the crankshaft pulley or flywheel is in alignment with its pointer. With the crankshaft in this position one of the lobes on the breaker cam should be under or near the rubbing block on the movable point arm. Then rotate the distributor housing, in the direction the distributor shaft rotates, a few degrees to move the rubbing block away from the lobe so the points can close. Place a strip of cellophane between the points, letting the points hold the cellophane, and slowly rotate the distrib-

utor housing in the direction opposite to the direction the breaker cam rotates. Continue turning the housing until the points start to release their grip on the cellophane and then lock the housing in place, taking care not to move the housing while the locking device is being tightened. It may be possible to advance the timing a slight amount from this setting to obtain the best performance from the engine but it will be necessary to road test the car before this is done to determine whether the engine can use more advance.

Inspect the distributor cap and rotor for cracks, carbon paths, and accumulations of grease or dirt that might allow the secondary current flowing through them to be shorted to ground. Parts with cracks or carbon paths must be replaced but dirty parts can be cleaned with solvent or kerosene. Scrape the end of the contact on the rotor and the contacts in the distributor to remove any corrosion that might be on them. Inspect the ends of the spark plug wires that are inserted in the cap for indications of corrosion and check the sockets in the cap for corrosion and indications of arcing. A cap with badly burned or corroded sockets must be replaced if they cannot be cleaned well enough to make them bright and shiny again. Plug wires with corroded ends can usually be salvaged by snipping the corroded portion off and fitting new terminals to the fresh end of the wires.

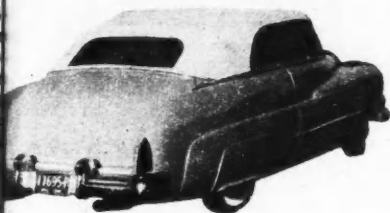
If the spark plug wires are cracked, oil soaked or in bad condition from any other cause, replace them with new wires. Tailor-made plug wire sets that make the installation of new wires a simple job are available for most automobile engines. Replace one wire at a time so there won't be any chance of getting mixed up and installing the wires in the wrong sockets or on the wrong plugs.

A tune-up job isn't complete unless the electrical connections in the ignition circuit are checked for tightness. This includes the connections on the ignition switch, ammeter, starting motor solenoid, ignition coil, distributor, and battery. Nuts that hold the wires on the terminal posts of the various units in the circuit should be tightened and any wire found to be loose in its terminal or with broken conductor strands at its terminal end should be fitted with a new terminal of the correct type.

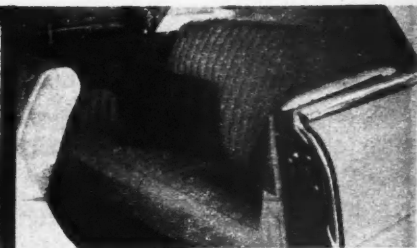
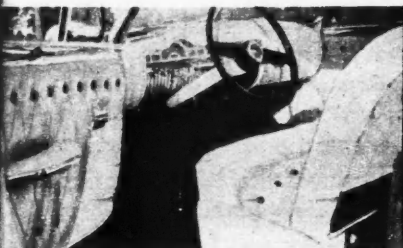
We will continue next month with tips on cooling systems, fuel lines and other bits of advice which will help you get better operating results from your engine.

Elmore, Ohio enthusiast
builds a customized winner

MAIL BAG CUSTOM



Stanley Kerbel, of Elmore, Ohio, turned in some nine months of his spare time building this sanitary '51 Merc convertible custom. Highlights of trimless body is molded grille cavity with '54 Pontiac grille bar and neatly frenched in '53 Lincoln Capri taillights. Headlights have been frenched to fenders utilizing the stock Merc rims, and hood has been radically peaked. Rewarding Stan for his many hours of tedious workmanship, the Merc on its initial debut took home first place honors at Toledo's annual "Aurorama" show in the custom car class. We're compelled to side in with the judging officials, for besides the immaculate condition of the exterior—get a load of that fabulous rolled, pleated and tufted interior!



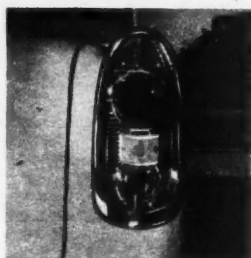
CAR QUIZ

Test your car skill—identify each of these components. Each pictured component should be correctly matched with the year and make car that it is from. Score 15 points for each correct answer. A total score of 45 is passing, 60 fair, 75 good, 90 excellent.



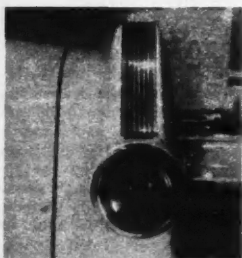
- () '56 Chrysler
- () '56 Plymouth
- () '56 Lincoln Continental

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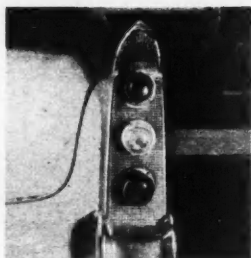
- () '56 Studebaker
- () '55 Dodge
- () '56 Chevrolet

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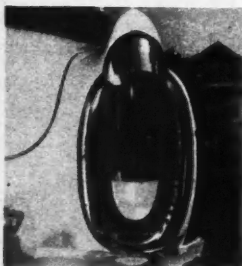
- () '55 Ford
- () '56 Pontiac
- () '54 Oldsmobile

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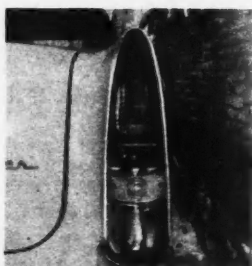
- () '55 Studebaker
- () '56 Dodge
- () '56 DeSoto

4.



- () '56 Ford
- () '56 Mercury
- () '56 Nash

5.



- () '56 Studebaker
- () '56 Chrysler
- () '56 Plymouth

6.

Answers on page 61

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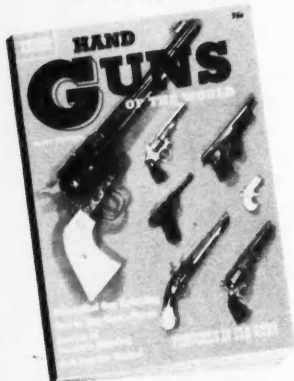
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tures in this fascinating book; learn the art of stalking game—"hunting the hard way." Read his thrilling stories on successful hunts for buffalo, bobcats, mule deer, mountain sheep, alligators and even hunting game fish underwater. Chapters describe how to make your own bows, strings and arrows; fine points of using archery equipment.



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Hon. Honest Charley

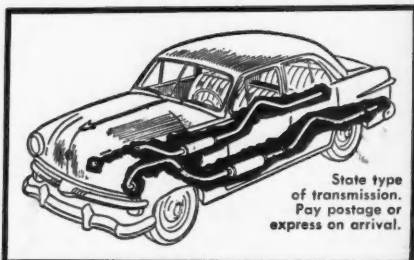
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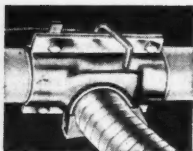
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